ESI POST GRADUATE INSTITUTE OF MEDICAL SCIENCE AND RESEARCH
AND
ESIC HOSPITAL & OCCUPATIONAL DISEASE CENTRE (E.Z.),
(A statutory body under Ministry of Labour Govt, of India)
DIAMOND HARBOUR ROAD, JOKA, KOLKATA, 700 104
Fax: 033 2467 2795, Phone: 033 2467 1764 / 6280 / 1322/2799
(An ISO 9001:2008 CERTIFIED ORGANISATION)

Tender No. 412.U/16/30/3/Proposal/10-11 (Medical College) **Dated: 04 .11.2013**

Sub: **Open Tender Enquiry – (Two Bid System): For supply of Equipments & Instruments.**

(NOTE: The envelope containing the tender as well as subsequent communications should be addressed and delivered to 'The Medical Superintendent', ESIC Hospital & O.D.C. (E.Z), Diamond Harbour Road, P.O.: Joka, Kolkata, 700 104, West Bengal. All communications must be addressed to the officer named above by title only and not by name.**)**

To:

_____

_____

Sir(s),

Sealed tenders are invited (under Two Bid System - "TECHNICAL BID" & "PRICE BID") by post/per bearer from bonafide manufacturers / authorised dealers for supply of "**Equipments & Instruments"** as per categories / specifications and/or quantities detailed in the **Schedules / Specifications** (Annexure – IV) attached.

The "**Tender Documents**" comprising the Compulsory Documents **(Annexure I)** ,*General Terms and Conditions of Contract* **(Annexure II)** and the *Special Terms and Conditions of Contract* **(Annexure III)** which will govern any contract made**,** the *Tender Application Form* **(Annexure IV)** and the *Schedule of contract / specifications of items* (**Annexure-V)** are enclosed herewith. If you are in a position to quote for the contract in accordance with the requirements stated in the attached schedule as per the terms and conditions stated, please submit your quotation to this office.

The tender document may be obtained from the office of the Medical Superintendent in person by the bonafide applicant or his authorised representative by applying in their letter head **at a cost of Rs.1000.00 (Rupees One Thousand Only**). **The "tender documents" can also be downloaded from the web site www.esi-pgimsrkolkata.org , the web site (**www.esic.nic.in**) and Central Public Procurement Portal (eprocure.gov.in)** and in such case the same may be signed and submitted as per the procedures mentioned hereinafter along with the fee(s) for the "tender documents" @ Rs 1000.00 (Rupees One Thousand Only) (To be submitted along with the Technical Bid. It should not be enclosed in the envelope containing the Price Bid). All the payment may be made by **Demand Draft**; drawn **in favour of ESI Fund A/c No. 1, payable at Kolkata; Cheques will not be accepted.**

Tenderers are requested that, before quoting their rates or sending tender, the tender forms may please be read out thoroughly (line by line) so as to have a clear knowledge of the requirement contained therein, otherwise purchaser will not be held responsible for any error / oversight of his own and the penalties shall be levied for not complying with the requirements stated herein or supply of the required item/services.

The form is a Standard Form of Tender. Certain clause / clauses may not be applicable in some cases. So, Tenderers are requested to ignore such clause / clauses, which are not applicable in the instant case.

The Tender forms containing the compulsory documents(**Annexure – I),** the Terms and Conditions **(Annexure – II)**, the Special Terms and Conditions of Contract **(Annexure III),** the Tender Application Form **(Annexure IV)** and the Schedule of contract / specifications of items (**Annexure-V) should be returned in original along with the technical bid document, intact, after filling up the same and duly signing in full with stamp, <u>on each page</u>**, failing which the tender shall be liable for rejection.

In the event of the space on the Schedule of contract / specifications of items/proforma being insufficient for the required purpose, additional pages may be added. Each such additional page must be numbered consecutively, bearing the Tender Number and be duly signed and stamped by the tenderer. In such cases, reference to the additional pages must be made in the Tender Form. If any modification of the schedule is considered necessary, you should communicate the same by means of separate letter sent along with the Tender.

PARTICULARS

Cost of each Tender Document	**Rs. 1000.00 (Rupees One Thousand Only)**
Period for supply of Blank Tender Forms and related documents at the Hospital on all Working Days (Except Saturdays, Sundays and Holidays)	**15.11.2013 to 05.12.2013 from 10.30 am to 3.00 pm**
Pre Bid Meeting	**15.11.2013 at 2.00 pm**
Due Date & Time of submission of completed Tender Document in the Tender Box kept in the Office of ESIC Hospital.	**06.12.2013 upto 2.00 pm**
Date & Time of Opening of Technical Bid	**06.12.2013 at 2.30 pm**
Bid Security / Earnest Money to be deposited	Amount of EMD to be deposited is, as mentioned against each of the equipment / instrument /item in annexure V of the tender document. While quoting for more than one item, the earnest money mentioned against each quoted item are to be taken into consideration and added up while submitting the earnest money / bid security.
Performance security / Security Deposit Money to be deposited	10 % of the Bill Value of each of individual equipment & instrument to be purchased from the tenderer after selection.

Medical Superintendent, ESIC Hospital & ODC (E.Z), Joka, does not pledge himself to accept the lowest or any tender and reserves the right of accepting or rejecting the whole or any part of the tender without assigning any reason thereof. Canvassing in any form by the tenderer or his representative with any of the officials of ESIC Hospital shall render the tender liable to be rejected.

Acceptance by the purchaser shall be communicated in due course. You are requested that the instructions contained in the said communication should be acted upon immediately as asked for.

THE FIRM IS REQUESTED TO FOLLOW THE CHECK LIST AT THE TIME OF SUBMISSION OF TENDER DOCUMENT WITHOUT WHICH THE OFFER IS LIABLE TO BE CANCELLED:

COMPULSORY DOCUMENTS:

[Without which the offer is liable to be cancelled)

1. Tender Document Fee: Rs._____ DD No._____ dated_____

2.EMD Value: Rs._____DD No._____Dated_____

3. Valid Trade Licence Certificate: Valid upto_____

4. Warranty Certificate: At least for one year, submitted [Yes /No]

5. VAT / CST certificate: Submitted [Yes /No]

6. Undertaking for AMC for five years (without mentioning rate) in technical bid Submitted, [Yes /No]

7. Rate of AMC for five years to be submitted along with financial bid. Submitted, [Yes/No.]

8. Mandatory spare parts availability for five years Certificate: Submitted, [Yes/No.]

9. Original tender document signing all the pages: Submitted, [Yes/No.]

10. **Name & Address of Service Centre In KOLKATA: Submitted, [Yes/No.]**

11. COPY OF PAN/TAN CARD: Submitted, [Yes/No.]

Enclosures:

1. Annexure – I (Compulsory Documents).
2. Annexure – II (General Tender Terms & Conditions).
3. Annexure – III (Special Tender Terms & Conditions).
4. Annexure – IV (Tender Application Form).
5. Annexure –V (Schedule / specifications of items/equipment).

Yours sincerely,

MEDICAL SUPERINTENDENT

ANNEXURE-I

To
Tha Medical Superintendent
ESIC Hospital & Occupational Disease Centre (E.Z.),
Diamond Harbour Road, Joka, Kolkata, 700 104

COMPULSORY DOCUMENTS:

[Without which the offer is liable to be cancelled)

1. Tender Document Fee: Rs._____ DD No._____ dated_____

2.EMD Value: Rs._____DD No._____Dated_____

3. Valid Trade Licence Certificate: Valid upto_____

4. Warranty Certificate: At least for one year, submitted [Yes /No]

5. VAT / CST certificate: Submitted [Yes /No]

6. Undertaking for AMC for five years (without mentioning rate) in technical bid Submitted, [Yes /No]

7. Rate of AMC for five years to be submitted along with financial bid. Submitted, [Yes/No.]

8. Mandatory spare parts availability for five years Certificate: Submitted, [Yes/No.]

9. Original tender document signing all the pages: Submitted, [Yes/No.]

10. **Name & Address of Service Centre In KOLKATA: Submitted, [Yes/No.]**

11. COPY OF PAN/TAN CARD: Submitted, [Yes/No.]

Date:-
Place:-

Signature of the tenderer:-

Full Name:-
Designation:-

(Office seal of the tenderer)

ANNEXURE-II

GENERAL TERMS AND CONDITIONS FOR TENDER / BID

1. PREPARATION OF TENDER:

a. The original Tender form containing the Terms and Conditions (General and Special) and the Schedule should be returned in original after filling up the form and duly signing in full on each page with stamp, whether you are quoting for any item or not, failing which the tender is liable to be rejected.
b. If any item in the schedule is not being tendered for, the corresponding space against the item should be defaced by writing **'not quoting'**.
c. In the event of the space on the schedule form being insufficient for the required purpose, additional pages may be added. Each such additional page must be numbered consecutively, bear the Tender Number and be duly signed and stamped by you. In such cases, reference to the additional pages must be made in the Tender Form.
d. The Tenderer shall, wherever call upon to do so, give full information with reference to the services in hand and shall also permit the Medical Superintendent or any other officer nominated by him to inspect the premises of the tenderer at all reasonable times and shall give full assistance and information as may be required by him in connection with the contract.

2. SIGNING OF TENDER:

a) The tender is liable to be rejected if complete information is not given therein or if the particulars and date (if any) asked for in the tender are not duly & fully filled in. Particular attention may be given to the dates of delivery, places of delivery and also to the particulars referred to in the conditions of contract so as to comply with them.
b) Individuals signing tender or other documents connected with the contract must specify:
    i) Whether signing as a 'Sole Proprietor' of the firm or his Attorney?
    ii) Whether signing as a 'Registered Active Partner' of the firm or his Attorney?
    iii) Whether signing for the firm 'Per Procreation'?

In the case of companies and firms registered under the Indian Partnership Act, the capacity in which signing e.g. Secretary, Manager, and Partner etc. or their attorney and produce copy of documents, empowering him to do so, if called upon to do so.

NOTE: In case of unregistered firms, all the members or all Attorneys duly authorised by all of them or the Manager of the firm should sign the tender and subsequent documents.

1. PROCEDURE FOR SUBMISSION OF TENDERS / BIDS:

1. The tender should be submitted *in 'TWO BID' SYSTEM*:-

i. **TECHNICAL BIDS:**

a. TECHNICAL BIDS in one separate envelope, sealed, super scribed with the wordings "TECHNICAL BID".

b. The original copy of tender (Annexure – I to annexure - IV), duly completed and signed on each page, should be submitted/returned back, enclosed along with the "TECHNICAL BID".

c. The "Technical Bid" shall contain Earnest Money, the Cost of the Tender Document (if downloaded from the web), both in the form of demand drafts as prescribed hereinbefore, and all the technical details & documents along with commercial terms and conditions in support of the quoted equipment.

d. The Earnest Money Deposit (EMD) should be submitted in separate envelope super scribed with the wordings "EMD" .

e. Prices / Costs of the items *should not be* indicated anywhere in the Technical Bid. This should be followed meticulously failing which the tender is liable to be cancelled.

ii. **PRICE (FINANCE) BID**

a. PRICE (FINANCE) BID for each ITEM is to be submitted in SEPARATE sealed envelopes, super scribed with the wordings "PRICE (FINANCIAL) BID" and the "NAME OF THE ITEM". All such sealed envelopes of Price Bids for individual items are to be kept in a large sealed envelope, again superscribed with the wordings "PRICE (FINANCIAL) BID". This should be followed meticulously failing which the tender is liable to be cancelled.

b. The 'Price/Financial Bid' will contain item-wise price / cost for the items mentioned / quoted in the technical bid.

II. **Both the Technical Bid envelope and the Price (Financial) Bid envelope, prepared as above, are to be kept in a larger single envelope super-scribed with "TENDER (TWO BID SYSTEM) FOR SUPPLY OF Equipments and Instruments so as to give a double cover protection.**

III. **The outer cover should also be sealed and addressed to the Medical Superintendent in the address mentioned hereinbefore.**

IV. **Tenders submitted without following the 'Two Bid' System procedure will be rejected.**

2. LATEST HOUR FOR RECEIPT OF THE TENDER:

Your tender must reach this office not later than the date and time notified in the Tender Notice stated in the TENDER DOCUMENT. Any tender received after that shall be rejected. In the event of the stipulated date of opening of the tender being declared a closed holiday for Govt. offices, the date of opening of the tender(s) will be the next working day. Tender sent by hand delivery, should be delivered at this office not later than the due date and time stipulated in the schedule of tender.

3. THIS TENDER DOCUMENT IS NON-TRANSFERABLE

4. PERIOD FOR WHICH THE OFFER WILL REMAIN OPEN AND PERIOD OF VALIDITY:

i) All tenders should remain open for acceptance for **a period of twelve months** from the date **of opening of the tender.**

ii) The contract / tender, if awarded, shall be valid **initially for one year from the date of award of Contract** subject to continuous satisfactory performance and on failure on this aspect by the contractor, the Competent Authority will reserve the right to terminate the contract. The period of the contract can be extended for further period at the discretion of the Competent Authority, to a maximum of one year, on terms and conditions of the hospital, while accepting the tender.

iii) Quotations qualified by such vague and indefinite expressions such as 'subject to immediate acceptance'; 'subject to prior sale' etc. will not be considered.

5. OPENING OF TENDER:

I. The **Technical bids** will be opened on the specified date and time in the presence of bidders/representatives who choose to attend on the date and time as mentioned.

II. The bidders/ representatives who are present in the opening shall sign evidencing their attendance.

III. The **Price/Financial bids** of the bidders whose technical bids are found technically suitable (after the selection of samples / demonstration of equipment / Item, if any) only will be opened later. **The decision of the committee on technical suitability shall be final and shall not be opened for discussion.**

6.PRICES:

i) Prices are to be quoted in Indian Rupees.

ii) Prices quoted in the Price/Financial Bid must be meaningful and measurable in the context.

iii) The prices quoted must be per unit shown in the schedule inclusive of all packaging, installation and delivery charges wherever applicable. Refunds on account of returnable package (if any) are to be separately specified. Price & Fund must be clearly shown in figures and words.

iv) Tenderers should clearly specify whether prices quoted are inclusive of Sales Tax/ VAT / duties / statutory charges or such charges as extra. Where no specific mention is made to Sales tax / VAT/ or other duties, prices quoted shall be **deemed to be inclusive of such taxes** / charges.

v) The ESIC Hospital and ODC (EZ), Joka, is not authorized to issue 'C/D forms'.

7. BID SECURITY / EARNEST MONEY:

The tenderer shall have to deposit an earnest money equivalent to the amount as mentioned against each of the equipment / instrument /item in annexure V of the tender document **with their Technical Bid at the time of application, failing which the tender shall be rejected**. While quoting for more than one item, the earnest money mentioned against each quoted item are to be taken into consideration and added up while submitting the earnest money / bid security and shall be paid in single demand draft . The earnest money is to be paid by Demand Draft drawn in favour of **ESI Fund A/c No. 1,** payable at Kolkata. NO CHEQUES OR CASH WILL BE ACCEPTED. In the event of the withdrawal / revocation of tenders before the date specified for acceptance, the earnest money shall stands forfeited. In the event of acceptance of the tender the earnest money may be adjusted, on written request, towards the amount of security required to be deposited by the contractor in terms of Clause mentioned herein. The earnest money will however, be returned without interest to the tenderer whose tender is not accepted after the finalisation of the tender.

8. SECURITY DEPOSIT / PERFORMANCE SECURITY:

On acceptance of the tender, within the period specified by the Medical Superintendent, the successful tenderer / contractor shall deposit a sum equivalent to **10 % (Ten Percentages) of the Bill Value, rounded off to the nearest Rupee,** as security deposit, for due compliance & fulfilment of the terms and conditions of the contract. This has to be in the form of a bank draft, drawn in any of the nationalised bank, in favour of **ESI Fund A/c No. 1,** payable at Kolkata. NO CHEQUES WILL BE ACCEPTED for this purpose. On due performance and successful completion of the contract in all respect including warranty period, the security money deposit shall be returned to the contractor without any interest *on presentation of an absolute 'No Demand Certificate' in the prescribed form and upon return in good condition of any specifications, samples or other property belonging to the purchaser, which may have been issued to the contractor. If the contractor fails in fulfilling the terms and conditions mentioned here in different parts of this tender document, such failure will constitute a breach of the contract and the Medical Superintendent shall be entitled to make other arrangements at the risk and expense of the contractor. Also, n*on-performance/unsatisfactory performance or violation of terms and conditions of the contract will make the contractor liable for forfeiture of security deposit. The decision of the Medical Superintendent shall be final and binding on this count.

9. DELIVERY TERMS:

a. Time and date of delivery: The essence of contract: - The time for and the date of delivery of the stores / date of execution of work as stipulated in the schedule shall be deemed to be the essence of contract and delivery / execution must be completed not later than the date(s) specified. The delivery of the stores / execution of work / providing the services etc. are required within a period as specified in the purchase order and as the place mentioned therein. Normally maximum 6 weeks time is allowed from the date of issue of the purchase order for execution of the supply of the equipment / article. However, the time allowed for execution of order shall be governed by the stipulated time mentioned on the purchase order of Delivery of equipment / Items.

b. The tenderer shall deliver the stores/ execute the work at the destination / space defined to the consignee / authority in good order (of which the Medical Superintendent, ESIC Hospital & ODC (EZ), Joka, Kolkata shall be the sole judge) within the limits of the time as deemed reasonable and specify in such quantities/qualities as may be ordered by him from time to time.

c. When a purchase order is placed to the successful tenderer, he shall have to acknowledge the receipt of the said order within 10 (ten) days of the issue.

d. In case this office does not receive supply of the above item(s), by due or extended date of delivery, the above stated order will stand CANCELLED, unless extension is sought for and granted by the competent authority for the late supply. In such cases, purchase of the above items will be made at the tenderer's RISK & COST without his consent and correspondence in these regards. The competent authority reserves the right to recover the difference of excess expenditure so incurred from the tenderer's incoming bills or otherwise in addition to forfeiting the earnest money deposited by the tenderer.

e. But if the delay shall have arisen from any cause, such as strikes, lockouts, fire accidents, riots, etc., which, the Medical Superintendent, ESIC Hospital & ODC (E.Z) may admit it as reasonable ground for further time, and the Medical Superintendent may allow such additional time required by circumstances of the case.

10. PAYMENT TERMS:

1) 100% Payment will be made only after supply, inspection, complete installation and satisfactory demonstration of performance of the item / equipment / instrument (including supply of all accessories) subject to deposition of a sum equivalent to 10 % (Ten Percentages) of the Bill Value as mentioned under Security Deposit / Performance Security Clause mentioned above or submission of Performance Bank Guarantee for 10% value of the order valid for the warranty period from any Scheduled Bank or. Otherwise 90% payment will be released after installation & balance 10% payment will be released after warranty period or against bank guarantee for the warranty period. No advance payment before effecting supply as above either part or full of any kind shall be made under any circumstances.
2) Payment shall be made through cheque or Electronic Clearing System. Normally, payment is made within six weeks after satisfactory inspection, installation and performance of the item / equipment / instrument subject to submission of appropriate and correct invoice, Challans and other documents as deemed fit.
3) In case of cheque, the same may be dispatched through Registered Post.

11. OTHER TERMS:

a) **Responsibility for executing Contract**: The contractor is to be entirely responsible for the execution of the contract in all respects in accordance with the terms and conditions as specified in the acceptance of tender.
b) The contractor shall not sublet transfer or assign the contract to any part thereof without the written permission of the Medical Superintendent. In the event of the contractor contravening this condition, Medical Superintendent be entitled to place the contract elsewhere on the contractors account at his risk and the contractor shall be liable for any loss or damage, which the Medical Superintendent, ESIC Hospital & ODC (EZ), Joka, may sustain in consequence or arising out of such replacing of the contract.
c) Recovery of sums due: Whenever any claim for the payment of a sum of money arises out of or under this contract against the contractor the purchaser shall be entitled to recover of such sum by appropriating, in part or whole the security/earnest money deposited by the contractor, when the balance or the total sum to be recoverable, as the case may be shall be deducted from any sum then due or which at any time thereafter may become due to recoverable under this or any other contract with the purchaser. Should this sum not be sufficient to cover the full amount recoverable, the contractor shall pay to the purchaser on demand the remaining balance due.

d) Insolvency and breach of contract: The Medical Superintendent may at any time by notice in writing summarily terminate the contract without compensation to the contractor in any of the following events, that is to say:-

i) If the contractor being at individual or if firm, any partner in the contractor's firm, shall at any time be adjudged insolvent or shall have a receiving order or orders for administration of his estate made against him or shall take any proceedings for liquidation or composition under any insolvency not for the time being in force or shall make any convenience or assignment of his efforts or enter into any arrangements or composition with his creditors or suspend payment of if the firm be dissolved under partnership act, or

ii) If the contractor being a company shall pass a resolution or the court shall make an order for the liquidation of the affairs or a receiver of Manager on behalf of the debenture holder shall be appointed or circumstances shall have arisen which entitled the court or debenture holders to appoint a receiver or Manager.

iii) If the contract commits any breach of this contract not herein specifically proved for: Provided always that such determination shall not prejudice any right of action or remedy which shall have accrued or shall accrue thereafter to the purchaser and provided also that the contractor shall be liable to pay the purchaser for any extra expenditure, he is thereby put to but shall not be entitled to any gain on repurchased.

e) **Arbitration**: In the event of any dispute or difference arising out of the terms and conditions lsid down in this tender, the same shall be refered to Arbitrator appointed by the medical superintendent. The procedure of the Arbitration will be governed by the provisions Arbitration Act 1996 (as amended as rules framed there under).

f) **Document**: The tenderer should have a valid **Trade licence, PAN / TAN / other statutory document as applicable** and produce attested copies of such certificates along with the tender papers in Technical Bid, failing which the tender is liable to be rejected.

g) **Right to accept / reject**: The hospital authority reserves the right to **reject** any or all tender without assigning any reason whatsoever. Also, the hospital authority reserves the right to **award** any or part or full contract to any successful agency at its discretion and this will be binding on the tenderer.

h) The quantity shown in the tender can be increased or decreased to any extent depending upon the actual requirement.

i) **Assistance to contractor**: The contractor shall not be entitled to assistance either, in the procurement of raw materials required for the fulfilment of the contract or in the securing of transport facilities.

j) In case of failure to comply with the provisions of the terms and conditions mentioned, by the agency that has been awarded the contract, the hospital authority reserves the right to award the contract to the next higher tenderer or outside agency and the difference of price will be recovered from the defaulter agency who has been awarded the initial contract and this will be binding on the tenderer.

k) Medical Superintendent, ESIC Hospital & ODC (E.Z), Joka, does not pledge himself to accept the lowest or any tender and reserve to himself the right of accepting the whole or any part of the tender or portion of the quantity offered and you shall supply the same / execute the work at the rate quoted by you. You are at liberty to tender for the whole or any part.

l) **Failure and Termination:** If the contractor fails to delivery the stores or any instalments thereof within the period prescribed for such delivery in the contract or any time liquidation the contract before the expiry of such period, the Director (Medical)/Medical Superintendent may without prejudice to his right to recover damages for breach of the contract, be entitled at his option.

i. To recovery from the contractor as agreed liquidated damages, and not by way of penalty a sum equivalent to 2% of the price of any stores which the contractor has failed to deliver within the period fixed for delivery for the schedule for each month or part of the month during which

the delivery of such stores may be in arrears, where delivery thereof is accepted after expiry of the aforesaid period, or

ii. To purchase elsewhere, without notice to the contractor, on his account and at the risk of the contractor, the stores not delivered or stores of similar description (where stores exactly complying with the particulars are not in the opinion of the Director (Medical)/Medical Superintendent, ESIC Hospital & ODC (E.Z), Joka, readily procurable such opinion being final). Without cancelling the delivery in respect of the consignments not yet due for delivery, or

iii. To cancel the contract or a portion thereof, and if so decided to purchase or authorise to purchase of stores not so delivered or other of a similar description (where stores exactly complying with the particulars are not, in the opinion of the Director (Medical) / Medical Superintendent readily procurable, such opinion being final) at the risk and cost of the contractor.

MEDICAL SUPERINTENDENT

ANNEXURE-III

SPECIAL TERMS AND CONDITIONS

The following special terms and conditions shall apply for supply of **Equipments & Instruments"**at ESIC Hospital & O.D.C. (E.Z), Joka.

A. INSPECTION / INSTALLATION OF ITEMS / EQUIPMENTS:

Supplies shall be accepted and work shall be certified as completed subject to **satisfactory and complete installation** (upto full potentials claimed for that respective equipment/ Item) of the equipment / items supplied including supply of all accessories, and certified by the assigned officer, and subsequent inspection by Medical Superintendent, ESIC Hospital & ODC (EZ), Joka, or his assigned representative. Any defect found in the materials / equipment / items supplied / work done will render the supplies / work open to rejection and decision of the Medical Superintendent, ESIC Hospital & ODC (EZ), Joka, shall be final and legally binding. The tenderers shall **have to take the same (rejected store) back at their own cost and risk**, and **shall replace** such rejections with the items of standard specifications / quality as acceptable to the Hospital Authority. Alternatively, the stores may be purchased from others / work may be executed through others, at the risks and costs of the tenderer, at the discretion of the authority.

B. WARRANTY / GUARANTEE:

Along with the **Technical Bid** the following information are to be provided exclusively.

(i) All the **equipments** shall be carrying **at least 1** (One) year warranty / guarantee against defects of manufacturer/workmanship and poor quality of components. Accordingly, the **tenderers shall indicate clearly** and exhaustively the mandatory warranty / guarantee offered by them / by the manufacturing / supplying firms, its duration, as well as the various Terms & Conditions involved therein, at the time of submission of the Technical Bid papers.

(ii) The tenderer must be able to provide **after sales service** for the equipments quoted at least for a period of **five years**. A declaration to such effect must be accompanied with the offer, in the technical bid.

(iii) **Uptime guarantee:** During the warranty/guarantee / AMC period the firm will maintain the equipment in good working condition. All the complaints will be attended by the firm within 24 hours of the dispatch of a complaint to their office. The firm shall ensure that machine is set right within 10 days (Ten Days) of the intimation. However, the tenderer have to arrange similar equipment as a standby at his cost and risk in case of breakdown. In case of the machine not being made functional within 10 days (Ten Days), **Stiff Penalty** equivalent to **1½%** of the cost of machine per week shall be levied for every week of delay at the discretion of the authority. In addition, the tenderer have to arrange similar equipment as a standby as stated above.

(iv) A certificate about satisfactory performance of the equipment duly authenticated by other existing users of the equipment has to be supplied.

C. SOFT WARE UPGRADATION:

Free up-gradation of software (all update & upgrades) at least for 5 years is to be provided wherever applicable.

D. CERTIFICATES TO BE SUBMITTED ALONGWITH THE TECHNICAL BID:

The following written guarantee / declaration must be provided exclusively without which the quotation shall be liable for rejection.

1. The name, addresses, phone no, fax no, etc, of the authorised **service centre in Kolkata** for each of the specific equipment / Article / item quoted.
2. A certificate about satisfactory performance of the equipment duly authenticated by other existing users of the equipment has to be supplied.
3. A declaration that the after sales service facilities as well as spare parts shall be made available at least for **five years** for each of the specific equipment / Article quoted.

4. A declaration indicating willingness to provide AMC services at least for five years after the expiry of the warranty for each of the specific equipment quoted. Accordingly, the tenderer must quote prices for AMC, separately, for each year, for 5 years. **The quotation for the cost of such AMC are to be furnished along with cost of the equipment in the Price Bid. No such rate shall be mentioned in Technical Bid.**
5. A declaration that the specific equipment/article with the given specifications has not been sold / supplied to any other organisation at a lesser price than the price quoted here for each of the specific equipment quoted here.

E. SAMPLES / DEMONSTRATION

The firms should be prepared to demonstrate their item(s) / arrange for demonstration of items within 3 (Three) weeks from the date of opening of tender for verification / inspection, etc., or at a later date as decided by the competent authority. The firm shall have to comply with such conditions failing which the tenderer shall be liable for rejection and forfeiture of the Earnest Money. The tenderer / firm / company shall arrange for demonstration of equipment / Item / article at his own cost and risk. Tenderer who fails to demonstrate the equipments/ instruments quoted will not be considered for selection.

F. DETAILS OF ITEMS QUOTED:

It is mandatory to indicate the full name, make / brand, model number, and details specification of the equipments quoted by them, (in addition, a brochure of product information may be attached along with). Tenderers also have to indicate clearly the Name, Address and all Contact numbers of the MANUFACTURING FIRM and the firm responsible for providing AFTER SALES SERVICES, of the equipment quoted by them.

G. BUY BACK OFER {wherever specified in the Schedules / Specifications (Annexure –V)}:

Preference will be given to the bidder who offers for buy back of the condemned equipments. The rate for buy back offer of the condemned equipments is to be mentioned in the **Price Bid**. No such rate shall be mentioned in technical bid. The equipments which are offered for buy back may be inspected by the tenderers on any working day from 11 AM to 3PM.during the period of supply of blank tender form as mentioned in the tender notice(at the time of issue of Tender Documents).

The payment will be made in shape of ECS/RTGS directly into the Bank Account of the Tenderer . Hence the Tenderer is requested to submit the mandate form duly filled in and submit along with the bills.

MEDICAL SUPERINTENDENT

ANNEXURE - IV

TENDER APPLICATION/DECLARATION FORM

1		Name of the firm:-	
2	a	Full Postal Address:-	
	b	Cell Phone No.	
	c	Telephone No:-	
	d	Fax No.	
	e	E-mail address:	
3		Date of Establishment of Firm:-	
4		If your Firm Registered under:-	
	a	The Indian Factories Act:-	
	b	Any other Act, if not, who are the owners (Please give full address):-	
5		Name and Address of your Bankers stating the name in which the Account stands:-	
6		Whether insured against fire, theft, burglary etc. If so, please state the amount and name of company with policy no:-	
7		Total number of Employees:-	
8		Are you in the list of approved contractors of any other organisations / institutions, if any give details (Append extra page if necessary):-	
9		Give details of any Government contracts executed during the last twelve months (Append extra page if necessary):-	
10		Any other information which you consider necessary to furnish:	

UNDERTAKING:

a. I, the undersigned certify that I have gone through the terms and conditions mentioned in the tender document and undertake to comply with them.

b. The rates quoted by me are valid and binding upon me for the entire period of contract and it is certified that the rates quoted are the lowest quoted for any other institution/ hospital in India.

c. The earnest money of Rs._____ to be deposited by me has been enclosed herewith vide Demand Draft no._____, Dt._____, drawn on bank _____, Branch _____.

d. I hereby undertake to supply the items as per directions given in the tender document / supply order within stipulated period.

e. I/We give the rights to Medical superintendent to forfeit the earnest money deposited by me/us if any delay occur on my/agent's part or failed to supply the article within the appointed time or the items of desired quality.

f. There is no vigilance/CBI case or court case pending against the firm.

Date:- **Signature of the tenderer:-**

Place:-

Full Name:-

Designation:-

(Office seal of the tenderer)

(For Technical Bid Only)

PLEASE QUOTE YOUR RATE AS PER THE GIVEN SPECIFICATIONS.

The amount of Earnest Money / Bid Security to be deposited for each of the item quoted is mentioned against each serialised item below. The total amount of Earnest Money for all the quoted items may be drawn in a single demand draft. However, in such case, the detail break up of earnest money submitted for each item is to be furnished in a plain paper along with the bank draft.

ANNEXURE – V

Sl. No..	Name of Equipment & Instrument	REQUIREMENTS	EMD Value	Quoted (Yes/No)
	DEPARTMENT OF ANESTHESIOLOGY(For ESI-PGIMSR, MANICKTALA)			
1	**SPECIFICATION OF RADIO FREQUENCY PULSE GENERATING SYSTEM** 1. Should be suitable for safe intervention in spine and other musculoskeletal system of human body for alleviation of chronic pain with CE /FDA approval. 2. Should be able to perform safe conventional & pulse RF lesioning with a touch screen LCD display to view and select the various parameters like temperature, power, voltage and impedance values. 3. It should have provision for future up-gradation to generate Cool RF and can perform multiple RF treatment at a single time by using more than one probe. 4. Must be able to verify cannula placement before lesioning using sensory and motor stimulation frequencies. 5. Radio frequency output: 460.8 KHz+-1%, Waveform - Quasi sinusoidal with maximum output power of 50W; Stimulation Amplitude from 0.0-10 V, 0.1V increments in voltage mode and 0.0-10mA in increments of 0.1 mA in Current mode .Frequency of stimulation rate: 1 shot-200 Hz in 10 steps. Pulse duration of stimulation should be variable from 0.1ms-1.0 ms.	01 pc	50,000	

	6. It should be supplied with required consumables/disposables required for its operation. 7. It should have Windows based operating system for patients & software- preferably Laptop based Windows operating system to keep records. 8. System should be equipped with at least i) RF Probes Length 54mm, 100mm and 145mm - 01 number each and RF Cannula 54mm, 100mm and 145 mm - 10 number each.			
2	**Specifications of Advanced Interactive Training MANIKIN with WINDOWS based ACLS Program** i) Full Body interactive adult manikin with sensors for head tilt, chest compression, carotid pulse, feedback on ventilation volume, stomach inflation, hand placement dexterity, breathing sound generation and adjustable chest rigidity. ii) It should have flexible defibrillator electrodes so as to provide training with different brand of defibrillator; it also must have accessories for intubation and IV trainer for relevant training facilities. iii) It should be able to accept up-to 400 Joules of defibrillation in a real life incremental fashion. iv) It should preferably be with Windows based software for BLS & ACLS training with provision of immediate recordings and options of wireless connection to computer. v) It must be supplied with display monitor with graphics for better learning with well protected carrying case and performing station. It must be FDA and/or CE certified.	01 pc	**15,000**	
3	**SPECIFICATION OF MANIKIN WITH INTUBATION HEAD** 1. Torso version of CPR manikin with facilities of intubation and all relevant airway management accessories and FDA/CE certification. 2. Real life facilities of Jaw Thrust and Chin lift with facilities of immediate feedback system for proper learning on ventilation, circulation and compression.	01 pc)	**4,000**	

	3. It should be supplied with polyethylene Extrication collar, PEEP valve-silicone resuscitator (Adult & Pediatric), Head wedge, Pocket mask and CPR barrier with one way valve of 30x20x10 mm size.			
4	**SPECIFICATION OF BASIC CPR MANIKIN** 1. It should be a light weight TORSO manikin with facilities of mouth to mouth breathing, monitoring of chest expansion and ventilation 2. Sensors/facilities to monitor depth of chest compression should be provided. 3. It must be FDA and/or CE certified.	01 pc	**3,000**	
5	**SPECIFICATION OF ADULT FIBEROPTIC INTUBTING FIBERSCOPE** 1. Fiberscope should be light weight, high resolution and fully immersible in disinfectant solution for cleaning; should have system of connection to video to obtain real picture. 2. It should be provided with at least 10 Bite Blocks and 10 intubation airways like Ovassapian airways or similar Fiberoptic compatible airways alongwith tube holder, disposable suction adaptors, Cleaning brush & Leakage tester. 3. Technical points: Field of view - 110 degrees or more; Distal End Diameter- at-least 4.8 mm; Insertion tube diameter - 6 mm or more; Distal end mobility -Up 140^{o} & Down 140^{o}; Working length- atleast 650 mm; Total length - 900 mm or more; Channel Diameter- 2.2 mm or more. 4. It should be integrated with a High Resolution Digital Video system to display real time video picture of procedure. Video should be of at-least 29 inch picture screen of High Definition resolution status with recording facility. 5. It must be FDA and/or CE certified	02 pc	**50,000**	
6	**SPECIFICATIOB OF LED LIGHT SOURCE FOR FIBEROPTIC INTUBATING FIBERSCOPE**	02	**8,000**	

	1. LED light source should have brightness not less than 50000Lux with recharging option; accessories to connect with fiberscope; LED shelf life approximately 50,000 hours. 2. Battery charger should be able to charge two light sources at a time. 3. It must be FDA and/or CE certified.	pcs		
7	**SPECIFICATION OF VIDEOLARYNGOSCOPE** 1. Macintosh blades with closed European Metal finish size 2, 3 and 4 with integrated camera chip and LED light illumination for obtaining more than 50000 Lux of brightness. 2. One special blade for difficult intubation with device for introduction of suction catheter for size 16-18 Fr., angle of view should be approximately 80 degree. 3. Handle screen of 7 inch or more in size for display with accessories to connect to big screen. 4. Facilities for recording of Video & still images and their transfer to suitable storage devices. 5. Magill forceps, Protection cap and all accessories like Blades and connection cables should be supplied. 6. It must be FDA and/or CE certified.	01 pc	**6,000**	
8	**SPECIFICATION OF NON-OPTICAL FIBER FLEXIBLE INTUBATION VIDEO ENDOSCOPE (ADULT SIZE) WITH SCREEN.** 1. Flexible Intubation Endoscope without optical fiber for digitally transferring the image to the screen attached to the device itself. There should be NO Optical Fiber bundles. The image can be displayed directly on a small TFT monitor attached to the screen 2. Facility to record video and still images. 3. Apparatus should be on rechargeable battery system 4. Airway block compatible with optical devices like Ovassapian or similar ones (atleast 10 such) should be provided with device along with tube holder, suction Adaptors, Cleaning brush and Leakage tester 5. It should have Tip deflection of around UP/DOWN: 140^0 /140^0 ; Angle of view 85^0 or more; Working Length: at least 65 cm; Total length: at least 93 cm; Working Channel diameter: at least	01 pc	**7,000**	

	2.2 mm and Distal Tip Outer Diameter: 5.5 mm or less 6. It must be FDA and/or CE certified.			
9	**SPECIFICATIONS OF DIGITAL FLUROSCOPE.** ***1. AERB approved, preferably 9 inch image intensifier or more X ray generator with suitable CCD camera and FDA and/or CE certification.*** 2. The system should have the following Macro and micro focus rating. It should preferably be equipped with large and narrow focusing X-ray window exist system with current range ranging from 4mAs to 20mAs depending on standard or boost mode. Collimation facilities should be there. 3. X-ray tube should be of High frequency X-ray, preferably within 4kw and dual focus tube and tube operating voltage between 40 – 110 Kv. Preferably, it should have Boost mode alongwith continuous, snap, and pulse modes. It should preferably have the capacity for future up-gradation to DSA mode too. Monitor should be of TFT/LCD type with resolution of 1040x1040 pixels or more. Live Image rotation should **be possible from control panel.** It must be supplied with UPS with voltage stabilizer and Thin LCD view box. 4. C-arm movement should have free space at-least 800 mm, its depth around 700 mm with panning motion around 12-14 degree. It should be able to rotate 180 degree both right and left side with smooth locking system. It should be supplied with at-least 25 sterile cover for C arm.	01 pc	**40,000**	
10	**SPECIFICATIONS OF PORTABLE ULTRASOUND SYSTEM.** 1. It should be trolley based portable Digital Ultrasound system capable of being used for Regional anaesthesia, vascular access and musculoskeletal intervention. 2. Its probes should preferably have remote as well as hand-held buttons for easy operation. Screen should have integrated colour display screen of at least 12 inches or more, with at-least 1-2 hours with battery operations 3. Screen orientation feature should include landscape to portrait and Portrait to Landscape operation. Also it must be able to work on probe ranging from 1-22 MHZ frequency with upgradable feature to Colour Doppler, PW Doppler Imaging Modes whenever required for future 4.It should preferably be with Wireless connectivity and should have touch screen feature and at-least have three	01 pc	**25,000**	

	preset remote controls in the linear probe to assist in interventional procedures .It should have application specific Auto annotation and body markers 5. It must be available with adequate storage, recording and printing devices. It should also be supplied with 3-7 MHz Broad Band convex Probe and 6-13 MHz broadband linear probe for vascular application with remote in the probe. It must be FDA and/or CE certified			
11	**SPECIFICATION OF TRANSPORT VENTILATOR.** 1. Ventilator should be light weight, electrically driven, pneumatically operated, time cycled, volume and/or pressure controlled, flow generator and pressure limited/ with pressure support emergency ventilator with a capacity to deliver oxygen therapy, CPAP, demand oxygen, and mechanical ventilation. 2. The unit should have at least the following modes: CMV/Demand, SIMV with/without pressure support, integrated PEEP function, CPAP, Manual breath. Tidal Volume: 70 to 1300 ml, Ventilation Frequency: 8 – 40 bpm, Oxygen flow rate 0-35 L/min (CPAP Range), I:E Ratio: 1:2. 3. Replaceable Power source: 3.6V Lithium battery with low magnetic influence so as to be used in MRI set up. It should have pressure relief, pressure manometer facilities. 4. There must be integrated electronic alarm system such as high pressure visual alarm, low pressure/disconnection visual alarm, breathing detect indicator, cycle indicator, audio alarm silenced indicator, low battery indicator, supply gas failure alarm. It must display breathing pressure, should have CPR facility and MRI compatibility. 5. Should have disposable circuit for CPAP with mask and hyperinflation circuit for the manual ventilation of neonatal and infant patients. 6. It must be FDA and/or CE certified	02 pcs	**15,000**	
12	**SPECIFICATION OF PATIENT CONTROLLED ANALGESIA PUMP** 1. Syringes should be able to recognize and hold 20, 30, 50/60ml sizes, Dose range: bolus, 1mg -99mg; dose duration STAT or 1-15minutes with a drug concentration ranging between 0.05mg /ml-99.5mg/ml. 2 .Its Lock out period should be between 0-360 min with a dose limit of 1-8 hr continuous infusion of up-to 20ml/hour and loading dose of up-to 99.5 mg/ml 3. Suitable for all age group with an accuracy of +/-2%. 4. Good battery life with all audible alarms and pneumatic handset, connector for printer and monitor and patient history key.	04 pcs	**10,000**	

	5, It should have locking system with syringe cover. 6. It must be FDA and/or CE certified			
13	**SPECIFICATIONS OF BLOOD AND FLUID WARMER** a. Suitable for both Adult & Pediatric patient. Delivery temperature of about 35-40º with flow rates of 75 to 5,000 ml/hr b. Should have digital display of temperature with in-built water tank and all sorts of alarm c. Temperature should be maintained up to the patient end and there should be triple lumen 8ft long Disposable Tubing Set at least three (3) in numbers. **d.** It must be FDA and/or CE certified	03 pcs	**10,000**	
14	**SPECIFICATION OF MOBILE LIGHT SOURCE UNIT** 1. Should be CE &/or FDA Certified with LED Mobile Light of **160,000 lux** intensity with Polygon reflector and inbuilt battery back up. 2. Light beam depth should be around 120 cm and LED must have at-least 40,000 hours of service. It should have adjustable colour temperature between 3500 to 5000° K with multiple choices; 3. Light field area around 16 to 29 cm with colour rendering index approximately of 96 with radiant power intensity between 560 - 600 W/m². 4. Options of dimming the light intensity should be there with unrestricted rotation of light head of 360 degree. Parameter control options must be there.	01 pc	**15,000**	
15	**SPECIFICATION OF BIPHASIC DEBRILLATOR** 1. Compact, portable, light weight and easy to use 2. It should preferably be Current Based, instead of energy based defibrillator delivery system 3. Waveform, current delivery preferably should be Biphasic in nature , rectangular in pattern. 4. External energy Selection from 2 J to 200 J, biphasic 5. Charging time less than 8 seconds @200 J (with a charged battery) ;Synchronizer and cardio version 6. Unique disarm button (in addition to automatic time delay) 7. Should come with high resolution monitor; Should come with 3 lead ECG cables, adult external paddles, paediatric adapter, disposable multipurpose defibrillator/pacing ECG paddles. 8.Should come with external pacing, demand and asynchronous modes and should display CPR in real time	08 pc	**40,000**	

	9. Long lasting sealed lead acid Ni-Cd battery not less than 2 hours of continuous ECG 10. Paddles should have with remote energy selection, charge and discharge buttons on paddles. 11. Should be supplied with Pediatric paddles adapters (set of 2), Roll of 50mm recording paper x10 rolls, 5 oz tube of defibrillation gelx5 tubes 12. ECG cable with leads, External disposable pacing pads (5 with each item) and Operation manual, service manual complete			
16	**SPECIFICATION OF SYRINGE PUMP** 1. It should be Light weight, Compact & should be able to adopt syringes from 5 to 60ml horizontal 2. Programming: Should be ml/min , ml/hr, 3. Flow rate should of minimum increment of 0.1 ml/hr 4. Volume Limit should be 999.9 ml, with facilities of Bolus delivery 5. Special Functions like Clear Volume 6. Should have alarms such as End of Battery, End of infusion, visual & sound alarms like Syringe positioning error, occlusion, infusion completed, syringe error, programming error; Block error, clamp error, low battery etc. 7. Flow rate deviation should not be more than +/- 1% of the programmed flow rate 8. Battery Rechargeable with battery life 3hr. Should be able to work on 230 Volts	08 pc	**15,000**	
17	**SPECIFICATION OF MEDICAL OZONE GENERATOR** 1. This digitally controlled unit should preferably be able to generate medical ozone with maximum deviation of 5% of accuracy with automatic modes of setting ozone concentration and ozone oxygen flow rate 2. It should give consistency in ozone oxygen flow rate with maximum deviation of 5% of accuracy. 3. It should have built-in capacity to generate ozone continuously for 2000 hours 4. There should be extra purification of oxygen (drying) at entry level and there should be no impurities in delivered ozone 5. Range of ozone concentration between 5 to 99 microgram /liter 6. Easy to operate, portable and light in weight.	01 pc	**5,000**	
18	**SPECIFICATION OF TENS UNIT FOR PAIN MANAGEMENT** 1. It should preferably have independently operable dual channel with wires and four electrodes and pulse rate of 1- 200	02 pc	**3000**	

	Hz 2. Should be able to generate biphasic waveform with current output 3. Output current intensity 0 -100 mA and 500 ohm load for voltage between 0 to 50 4. Preferably, five modes of operation including SD1 & SD2 with 5-300 us 5. Facilities of treatment countdown time, keeping of records and duration of use & timer 6. Additional cables and pads, spray for pads to be supplied (5 sets each) 7. AC operable with battery back up			
19	**SPECIFICATION OF INTERFERENTIAL CURRENT THERAPY GENERATOR** 1. It should be portable, light weight, electrically operable, preferably with battery back up. 2. Base AMF and Sweep AMF between 0 to 150 Hz Current Intensity: adjustable 0 to 100 mA 3. Should be able to provide multiple spectrum position 4. It should have output indicator and digital timer 5. It should preferably be supplied with two additional probes	01 pc	**1000**	
20	**SPECIFICATION OF ULTRASOUND THERAPY UNIT** 1. It should be microprocessor based, digitally controlled and displayed unit with one to three Hz ultrasound frequency generator. 2. Output mode: continuous or pulsed base ; 0-3 watts /sq cm 3. Pulse frequency : 16 to 99 Hz 4. Preferably, it should have therapy head with 2 cm and 5 cm square sound heads	01 pc	**4000**	

	5. Operation at 230 V, 50Hz 6. Auto-cut system with beep 7. Equipments with strap based hands free auto-movement based application will be preferred.			
21	**SPECIFICATION OF INFRARED LIGHT THERAPY UNIT** 1. Portable Infrared Therapy Unit with Energy output around 300 Watts, with treatmen area of about 1200 sq cm 2. 0 to 40 degree of angular movement 3. Insulated body, operating 240 -210 V 4. INFRARED length should be between 800 to 1200 nm 5. Automatic shut off at temperature of 42 degree C 6. Preferably, digitally controlled microprocessor based will be preferred.	01 pc	**5000**	
22	**Specification of Radio-Lucent Fluoroscope Compatible Procedure Table** 1. Procedure table should be suitable for intervention under fluoroscope guidance with adequate place for fluoroscope movement. 2. It should have low attenuation carbon fiber tabletop with three axis motorized positioning features and convenient positioning controller. 3. It should have smooth start and stop programming facilities 4. Capacity should have around 500 lbs 5. Head end should have cut-out for comfortable prone positioning 6. Head end should have conical gradual ending to accommodate fluoroscope closer to imaging area of upper	01 pc	**50,000**	

	part of body, especially neck. 7. It should be supplied with accessory rails. 8. It should be operable by 230-240 Volts with 50 Hz power supply with foot controller 9. It should preferably be supplied with Carbon fiber arm boards, clamps, other accessories 10. It should preferably be supplied with Head/neck and Thoracic/Abdominal radiation shield			
23	**Specification of ETHYLINE OXIDE BASED (ETO) Sterilizer** 1. It should be fully automatic and preferably be with two chambers. It should preferably be with four (High and Low Temperature with or without aeration) default / aerate cycles 2. Adjustable sterilize time between 1 hour to 99 hours. Adjustable Aeration time more or less between 12 to 36 hours. 3. It should have safety features to minimize ETO release in nearby area 4. Exhaust system should be able to protect human environment 5. Preferably be supplied with remote control and printer 6. Temperature range should be between 34 degree C to 58 degree C range 7. Should be operated by Single Dose Gas Cartridge. 8. Visual and audible cycle completion 9. It should preferably have Display Window, Numerical Touch Pad, reset touch pad and options for other functions. 10. Should be operational by 230 V and 50 Hz power supply 11. It should be supplied with standing frame for its placement 12. It must be FDA/ EC certified with Aluminum chamber. 13. It should preferably be equipped with single door or double door based opening system along with silicone rubber based gasket. Fiberglass based blanket insulation on outside of chamber. 14. Automatic door locking system	01 pc	**10,000**	

24	**SPECIFICATION of AMBULATORY PATIENT CONTROLLED INFUSION PUMP** 1. It should be computerized, handy, and easy to carry and use cassette based device that can be used multiple times with disposables. 2. Facility to provide demand and bolus doses. 3. Should be able to convert Drug concentration to ml, mg and microgram concentration 4. Lock out time preferably between 5 to 25 minute 5. Demand dose delivery must not be more than 12 in an hour. 6. Facility to detect block in infusion system with multiple levels of lock 7. Should be operable by battery, provision of AC adapter should be there 8. It should be supplied with disposable reservoirs and other accessories like connecting tubes etc. 9. CE/FDA certified	06 pcs	**30,000**	
25	**SPECIFICATION of FIBEROPTIC LARYNGOSCOPE with BLADE** **Handles and complete sets of blades with each Handle** 1. Handle of blade should be re-usable, easy to clean, preferably with Xenon bulb 2. It must be possible to clean handles with common medical grade disinfectants and should tolerate complete immersion in cleansing solution 3. It should be able to accommodate all sizes of blades 4. Blade must have fiber optic source of light 5. Blade sizes should be Pediatric, Pre-adult, standard adult and large adult size and one of each size to be included with one Handle.	05 pcs	**10,000**	
26	**SPECIFICATION of NUCLEOPLASTY SYSTEM** 1. It should work on principle of Co-ablation 2. It should work through generation of bipolar Radiofrequency without requiring grounding 3. Terminal end temperature generation must not be above 70 degree C 4. It should be capable of being used in both Lumber and Cervical region	01 pc	**30,000**	

	5. Supplied probe must have depth penetration marks and stop lock for safety and control. 6. It must be supplied with 17G (6 inch) and 19G (3inch) accessory needles, 5 needles of each size. Respective size Probe also to be supplied.			
27	**SPECIFICATION of Non-invasive Analyzer to detect Autonomic/Peripheral Neuropathic dysfunction** 1. It should be digital, non-invasive analyzer capable of measuring peripheral neuropathic condition and autonomic involvement of cardiac nerve fibers 2. It should have high sensitivity and specificity for the said purpose 3. USFDA and/or CE certified 4. Accessories to be supplied with equipments 5. Should be supplied with necessary soft-wares for complete data processing 6. Should be easy to operate in many patients on sequential basis at a time.	01 pc	**40,000**	
28	**SPECIFICATION OF COOLING UNIT OF RADIO FREQUENCY PULSE GENERATING SYSTEM** 1. It should have the ability to circulate cool water through radiofrequency probe during lesioning for radiofrequency neurotomy and should have CE /FDA certification. It should be compatible to use with standard radiofrequency pulse generator for chronic pain management. 2. It should be a have pump based operation with easy control and operation and should be able to maintain desired temperature throughout the desired period without tissue charring or burning at probe tip 3. It should have temperature sensor at probe tip and must be supplied with pump tubing kit (ten numbers), Transdiscal Cooled Probe Kit – 17 G/15 cm (five number), SIJ Cooled Probe Kit 17 G; 15 cm or lesser length (five number), Thoracic Pain Cool Radiofrequency Probe Kit (five number). Preferably, it also should be supplied with Lumber Cool Radiofrequency Probe Kit – 17 G/15cm (Five numbers). 4. System should be equipped with at least i) RF Probes Length 54mm, 100mm and 145mm - 01 number each and RF Cannula 54mm, 100mm and 145 mm - 10 number each.	01 pc	**40,000**	
29	**Specifications of Spirometer** 1. It should be PC based and should operate on operating system version windows XP or more and should have minimal dead-space with pre-calibrated sensor.	01 pc	**5000**	

	2. System should be able to generate values for MVV, VC, Peak flow rate and other respiratory parameters of obstructive as well as restrictive lung diseases. 3. The system must be simple to operate, preferably on plug and play system. 4. Facility to have pre & post medication values as well as printing of reports. 5. It should preferably be able to consider and adjust values according to ethnic origin of patients. 6. Automatic device connection facility, integrated pdf generator facility preferably should be there 7. Its flow range should be between 0.03 to 20L/sec and volume range around 8L. 8. It should be equipped with compatible laptop/ desktop and printer			
30	**SPECIFICATION OF TWELVE CHANNEL ELECTROCARDIOGRAPHY (ECG) MACHINE.** 1. Computerized 12 lead ECG generators should be able to detect arrhythmia, ischemia and other abnormality and should be able to generate print out of the report through laptop/desktop. 2. Preferably it should be able to generate miniature form of report for e-card facility with a storage capacity of 4000 to 6000. 3. Facility of grid printing and USB port should be there. 4. It should be easy to carry and operate. 5. It should preferably be able to print raw sequential, simultaneous, mixed, running measurements and electro cards.	01 pc	**4000**	
31	**SPECIFICATION OF BIOFEEDBACK WITH STIMULATOR** 1. It should preferably be based on a two channel EMG feedback with one channel pressure feedback system. 2. There should preferably be two independent isolated current channels with three different feedback modes like, continuous, work/rest and template. 3. Current should be of low to medium frequency with many variants. 4. Facility of combined application of pressure and EMG/Electrotherapy. 5. Pressure measurement should preferably between 0 to 350 hpa with a stable screen display. 6. It should be able to transmit data via various modern ways like wi-fi/Bluetooth/USB port and should have in-built safety system with CE/FDA certification.	01 pc	**6000**	

32	**SPECIFICATION OF NON-INVASIVE CENTRAL BLOOD PRESSURE MEASUREMENT DEVICE** 1. Device should be to operate and easy to carry with FDA/CE certification. 2. It should be based on suprasystolic and oscillometric technology to provide central blood pressure, augmentation index and arterial stiffness. 3. It should not be operator dependent, accurate and should have built-in calibration system. Must have a high sensitivity to arterial tone. 4. It should have built in software for data analysis, pulse pressure, and arrhythmia detection.	01 pc	**40,000**	
	Department of Biochemistry(For ESI-PGIMSR, JOKA)			
1	**Multichannel Micropipette with fluid container** **i. 10-100 µl** ***Nomenclature:*** **Automatic micropipette variable volume single channel capacity 10 – 100 µl** ***+(Variation of capacity may be accepted within a short range available in the market nearest to the requirement of the consignor)*** ***Description:*** Variable volume single channel micropipette with non-slip ergonomic design; fully Autoclavable and without post-autoclaving recalibration; single tip-ejector, two- step plunger operation; designed to access into narrow necked glassware; tip cone with excellent chemical resistance; low activation force for blow-out and tip ejection; easy calibration, cleaning and maintenance; to be supplied with full documentation of precision & accuracy certificate through ISO certified QC assurance for gravimetry. **Essential Accessories must be supplied with the main consignment & committed in the bid** ***1***. One pipette stand for 5 pipettes. ***2.*** Standard tools and lubricants. ***3.*** Pack of sterile microtip for 10 – 100 µl pipette (10x96)	**05 each**	10,000	

	Multichannel Micropipette with fluid container **ii. 100-1000µl** ***Nomenclature:*** **Automatic micropipette variable volume single channel capacity 100 – 1000 µl** ***+(Variation of capacity may be accepted within a short range available in the market nearest to the requirement of the consignor)*** ***Description:*** Variable volume single channel micropipette with non-slip ergonomic design; fully Autoclavable and without post-autoclaving recalibration; single tip-ejector, two- step plunger operation; designed to access into narrow necked glassware; tip cone with excellent chemical resistance; low activation force for blow-out and tip ejection; easy calibration, cleaning and maintenance; to be supplied with full documentation of precision & accuracy certificate through ISO certified QC assurance for gravimetry. **Essential Accessories must be supplied with the main consignment & committed in the bid** ***1***. One pipette stand for 5 pipettes. ***2.*** Standard tools and lubricants. ***3.*** Pack of sterile microtip for 100 – 1000 µl pipette (10x96)			
2	**Micropipette Adjustable Volume** **i. 05-50 µl** ***Nomenclature:*** **Automatic micropipette variable volume eight channel capacity 05– 50 µl** ***+(Variation of capacity may be accepted within a short range available in the market nearest to the requirement of the consignor)*** ***Description:*** Variable volume microprocessor controlled eight channel micropipette with non- slip ergonomic design; fully autoclavable and without post-autoclaving recalibration; single touch tip-ejector, option-wise multi step plunger operation; designed to access into narrow necked glassware; tip cone with excellent chemical resistance; low activation force for blow-out and tip ejection; easy calibration, cleaning and maintenance; ***Functions:*** Computer driven high speed functions for pipetting, multi-dispensing, dilution dispensing, sequential dispensing and aspiration; automated dispensing, reverse pipetting functions. **Range of pipetting 05 – 50 µl with increment volume of 0.5 µl.** ***Display:*** Clear LCD with information of currently operating task.	**10 Each**	40,000	

Power supply: Battery operated DC motor, direct charging using AC adaptor as per Indian standards.

Quality Specification: Must comply with high accuracy and precision – max inaccuracy level 0.50% and max imprecision level 0.15% ; Manufacturer's calibration as per ISO 8655 & ISO 17025 Certification ; Calibration facility should be in accordance with NABL and international standards; to be supplied with full documentation of precision & accuracy certificate of QC assurance for gravimetry.

Essential Accessories must be committed in the bid & supplied with the main consignment

1. One pipette stand.
2. Standard tools and lubricants.
3. One set of micropipette tips (10 x 96) of aspiration capacity 200 µl with holder.

Micropipette Adjustable Volume

ii. 20-200 µl

Nomenclature: **Automatic micropipette variable volume eight channel capacity 20 – 200 µl**

+(Variation of capacity may be accepted within a short range available in the market nearest to the requirement of the consignor)

Description: Variable volume microprocessor controlled eight channel micropipette with non- slip ergonomic design; fully autoclavable and without post-autoclaving recalibration; single touch tip-ejector, option-wise multi step plunger operation; designed to access into narrow necked glassware; tip cone with excellent chemical
resistance; low activation force for blow-out and tip ejection; easy calibration, cleaning and maintenance;

Functions: Computer driven high speed functions for pipetting, multi-dispensing, dilution dispensing, sequential dispensing and aspiration; automated dispensing, reverse pipetting functions.

Range of pipetting 20 – 200 µl with increment volume of 0.5 µl.

Display: Clear LCD with information of currently operating task.

Power supply: Battery operated DC motor, direct charging using AC adaptor as per Indian standards.

Quality Specification: Must comply with high accuracy and precision – max inaccuracy level 0.50% and max

	imprecision level 0.15% ; Manufacturer's calibration as per ISO 8655 & ISO 17025 Certification ; Calibration facility should be in accordance with NABL and international standards; to be supplied with full documentation of precision & accuracy certificate of QC assurance for gravimetry. **Essential Accessories must be committed in the bid & supplied with the main consignment** ***1***. One pipette stand. ***2.*** Standard tools and lubricants. ***3.*** One set of micropipette tips (10 x 96) of aspiration capacity 200 µl with holder. **Micropipette Adjustable Volume** **iii. 50- 1000 µl** ***Nomenclature:*** **Automatic micropipette variable volume eight channel capacity 50 – 1000 µl** ***+(Variation of capacity may be accepted within a short range available in the market nearest to the requirement of the consignor)*** ***Description:*** Variable volume microprocessor controlled eight channel micropipette with non- slip ergonomic design; fully autoclavable and without post-autoclaving recalibration; single touch tip-ejector, option-wise multi step plunger operation; designed to access into narrow necked glassware; tip cone with excellent chemical resistance; low activation force for blow-out and tip ejection; easy calibration, cleaning and maintenance; ***Functions:*** Computer driven high speed functions for pipetting, multi-dispensing, dilution dispensing, sequential dispensing and aspiration; automated dispensing, reverse pipetting functions. **Range of pipetting 50 – 1000 µl with increment volume of 0.5 µl.** ***Display:*** Clear LCD with information of currently operating task. ***Power supply:*** Battery operated DC motor, direct charging using AC adaptor as per Indian standards. ***Quality Specification:*** Must comply with high accuracy and precision – max inaccuracy level 0.50% and max imprecision level 0.15% ; Manufacturer's calibration as per ISO 8655 & ISO 17025 Certification ; Calibration facility should be in accordance with NABL and international standards; to be supplied with full documentation of precision & accuracy certificate of QC assurance for gravimetry.			

Essential Accessories must be committed in the bid & supplied with the main consignment

1. One pipette stand.

2. Standard tools and lubricants.

3. One set of micropipette tips (10 x 96) of aspiration capacity 200 µl with holder.

Micropipette Adjustable Volume

iv. **100- 1000 µl**

Nomenclature: **Automatic micropipette variable volume eight channel capacity 100 – 1000 µl**

+(Variation of capacity may be accepted within a short range available in the market nearest to the requirement of the consignor)

Description: Variable volume microprocessor controlled eight channel micropipette with non- slip ergonomic design; fully autoclavable and without post-autoclaving recalibration; single touch tip-ejector, option-wise multi step plunger operation; designed to access into narrow necked glassware; tip cone with excellent chemical
resistance; low activation force for blow-out and tip ejection; easy calibration, cleaning and maintenance;

Functions: Computer driven high speed functions for pipetting, multi-dispensing, dilution dispensing, sequential dispensing and aspiration; automated dispensing, reverse pipetting functions.

Range of pipetting 100 – 1000 µl with increment volume of 0.5 µl.

Display: Clear LCD with information of currently operating task.

Power supply: Battery operated DC motor, direct charging using AC adaptor as per Indian standards.

Quality Specification: Must comply with high accuracy and precision – max inaccuracy level 0.50% and max imprecision level 0.15% ; Manufacturer's calibration as per ISO 8655 & ISO 17025 Certification ; Calibration facility should be in accordance with NABL and international standards; to be supplied with full documentation of precision & accuracy certificate of QC assurance for gravimetry.

Essential Accessories must be committed in the bid & supplied with the main consignment

1. One pipette stand.

	2. Standard tools and lubricants. ***3.*** One set of micropipette tips (10 x 96) of aspiration capacity 200 µl with holder.			
3	**Dispenser 0.5 µl - 5000 µl** ***Nomenclature:*** Volume Dispenser Automatic**.** ***Type :*** Inert amber colored glass bottle reservoir with bottle top Ball-valve polymer pump graduated for variable volume adjustments, autoclavable, corrosion resistant . ***Capacity:*** Reservoir capacity **0.5 µl - 5000 µl**. **Bottle top dispenser pump capacity 0.5 ml. with increments of 0.1 ml** ***Warranty :*** 03 years for bottle top pump assembly, easy availability of parts , accessory and locally available customer support.	5pcs	2000	
4	**Centrifuge 64 rotator** **Laboratory Equipment Centrifuge Machine High Speed** - Heavy duty sturdy M.S. body, well painted finish, with maximum speed of 6000 RPM at 10 / 12 tube of 15 ml total square body, with lid lock manual type, speed control by analogue know, digital display of timer, timer time 0-60 minutes speed display is digital, speed setting with help of knob, auto off if lid open, lid breaking system provided, power consumption 500 watt, power requirement 220V and 50 to 60 Hz, weight approx. 15 kgs, total noiseless operation, non-vibration, complete with head and power lead	**2 pc**	4000	
5	**Water Bath** ***Nomenclature :*** **Water bath , dimension approx. 450 x 300 x 150 mm** . ***Description:*** Double-walled, inner wall seamless corrosion-free polished stainless steel, insulated body and removable S.S. lid, digital microprocessor system for temperature control within range of ambient to 95˚C including precise setting of temperatures 37˚C and 56˚C,water outlet valve, provided with stirrer for even heating, heater cut-off and over- heating alarm, complete with plug and Power cord Indian type . ***Temp. range:*** Selectable within range of ambient (approx.) 25˚C to 95˚C including precise setting of temperatures ***37˚C and 56˚C*** with fluctuation limit of ± 0.1˚C. ***Operating Panel & Display:*** Selector knobs for different functions, *viz*, start, stop, temperature control, temperature and time setting with LED display.	**2pc**	1000	

	Digital display of set and actual running values is preferable. ***Power Cord:*** Indian type 3-pin plug top with properly insulated electrical cable ISI marked. ***Tube Racks:*** S.S. Tube racks to hold 12mm x 100mm tubes: 04 No.s.			
6	**Incubator** ***Item:*** Incubator Microbiological Electrical & Insulated. ***Details:*** 1.Dimension around 600 mm × 600 mm × 600 mm. (Near by dimensions will be also considered on non-availability of as specified) 2.Required Temperature range ambient to 65°C. 3.Outer wall stainless steel preferably or heat & moisture resistant painted aluminum, inner wall preferably stainless steel made, gap between the walls should be filled with high grade insulated glass wool, door fitted with chrome-plated hinges with spring and automatic roller lock. 4.Perforated and adjustable stainless steel shelves. 5.Heating Elements long-lasting in all three sides. 6. Fitted with Air-circulating fan. 7.Fitted with adjustable ventilation shutters. 8.Digital LED Indicator for temperature and time-lag and alarm system with thermostat, Temperature controller,Timer and ON/OFF switch. 9.Good quality and heavy duty power cord with plug. 10. Equipment to work on 220 / 230 volts A.C.	1pc	2000	
7	**Hot air oven** Hot Air Oven- ---Lab model with three side heating elements Construction: With double walled construction. Inner chamber made of ALUMINIUM or STAINLESS STEEL sheet. Outer chamber is made of mild steel sheet, finished with white powder coated paint. The gap between the walls is filled up with special grade glass wool for proper insulation to avoid heat losses. Inner chamber has ribs for placing the shelves at convenient levels. Supplied with 2 or 3 removable shelves. It is fitted with heavy hinges with a ball catcher, spring loaded door closing device. Door is duly	1 pc	2000	

<table>
<tr><td></td><td>insulated. Elements: Heating elements are made of high quality nickel/chrome plated nichrome wire which are put inside beads and placed at the bottom and in both the side ribs for uniform temperature all over the work space. Temperature Control : Temperature is controlled by imported capillary type thermostat from 50°C to 250°C ± 1°C. Temperature control knob is graduated in centigrade degrees. Ovens are supplied without thermometer. Ventilation: Air Ventilators are placed near the top of the both sides to remove hot gases and fumes if any. Control Panel: Comprising of switch to ON/OFF the power, switch to select high or low rates of heating, thermostat control knob and indicators for mains and thermostats. Supplied with cord and plug. Suitable to operate on 220 volts, 1 ph, 50 Hz, AC supply. Optional Accessories: • Air Circulating Fan.; • Digital Display Temp. Indicator.‟• Digital Display Temp. Controller-Cum-Indicator In lieu of thermostat.‟• Micro processor based PID temp. Controller cum indicator in lieu of thermostat.;• L - shaped Thermometer (Mercury) or straight type.‟• Timer. Size of inner chamber : W × H × D No. of Shelves 605 × 605 × 605 mm ²</td><td></td><td></td><td></td></tr>
<tr><td>8</td><td>Test Tube rack</td><td>20 pcs</td><td>50</td><td></td></tr>
<tr><td>9</td><td>Ependorf tube holder</td><td>10 pcs</td><td>100</td><td></td></tr>
<tr><td>10</td><td>Fluid Container for Multichannel Micropipette</td><td>20 pcs</td><td>50</td><td></td></tr>
<tr><td>11</td><td>Vortex mixer
Test tube mixer; The unit is meant for quick & thorough mixing of liquids in test tubes, small flasks or bottles. The mixer consists of an enamel finished housing containing the motor with an eccentric drive to a rubber buffer on the top. The tube is held against the vibrating buffer & the intensity of agitation controlled by varying the position in which the test tube is held. The thyristorized speed controller enables step less adjustment of degree of oscillations</td><td>1 pc</td><td>500</td><td></td></tr>
<tr><td>12</td><td>Refrigerator Pharmacological
•The Laboratory Refrigerators are specifically designed and are suitable for research laboratories, blood banks applications and across other laboratories working with critical elements. The Laboratory Refrigerator controls temperature varying from 2°C to 8°C. The unit shall be vertical model constructed of double walls high quality powder coated exterior mild cabinet. The Laboratory Refrigerator shall be insulated with high density CFC free Poly Urethane Foam the inner chamber is made of stainless steel 304 grades. With built in micro controller based temperature indicator-cum controller having audiovisual alarm. Door locking system for improved security with magnetic door gasket. Air cooled hermetically sealed compressor.
•Technical data
<table>
<tr><th>CAPACITY</th><th>INTERNAL (CMS.)</th><th>EXTERNAL</th></tr>
<tr><td>265 Litre</td><td>58x50x97</td><td>70x62x158</td></tr>
</table></td><td>2 pc</td><td>10,000</td><td></td></tr>
</table>

13	**AUTOMATED BIOCHEMISTRY ANALYZER.** Fully Automated Truly Open System Random Access Biochemistry Analyzer (ISO/ European CE Certified) with UPS 2 KVA. ANALYTICAL SYSTEM ***Analytical Mode:*** End point, Fixed time, Kinetic with Single /dual reagent chemistries, monochromatic /bichromatic filter and linear/ non-linearcalibration. . ***On Board Parameters:*** At least 30 Parameters. ***Through Put:*** Minimum 400 Tests per hour without ISE Test. **OPTICAL SYSTEM** ***Wave Length:*** Automatically selectable narrow band12 wave length within range 340-800 nm. **Light Source**; Halogen lamp **Photometer** Grating photometry **Absorbance range:** H 0-3.0Abs **OPERATING SYSTEM** ***Sample Manipulation:*** ***a) Sample volume:*** 3-50 microlitre per test step by 0.1. microlitre ***b)Sample Type:*** *serum, plasma, urine,body fluids& wholeblood.* ***c)Sample Holding System:*** Inter changeable tray or rack type d) Sample Position: 70 positions including stat sample for primary or secondary tube & sample cup. ***Reagent Manipulation:*** ***a. Reagent consumption:*** Reagent 1: 150-300 microlitres per test step by 0.1. microlitre. Reagent 2: 20-200 microlitres per test step by 0.1. microlitre. ***b. Multi reagent option:*** Multi reagent facility should be provided. ***c. Reagent system:*** Truly open system. ***d. Reagent storage:*** On board refrigeration of 55-60 containers. ***e. Reagent position:*** Positions to accommodate maximum number of reagent containers, so that the maximum number of parameters can be done on a sample.	01 pc	40,000	

	Probe System:	Separate probe for sample and reagent, liquid level detection & anti- crash facility with internal & external probe cleaning.			
	Reaction system:				
	a)Reaction cuvette:	At least 70 reaction cuvettes with rotating tray.			
	b)Cuvette wash:	6-8 steps auto wash with carryover < 0.1%			
	c) Mixing / stirring:	Automatic mixing or stirring facility.			
	d) Reaction volume:	150-350 microlitre			
	Operating Tempearture:	37^0C (Fluctuation ± 0.1^0C			
	FUNCTIONS				
	Sample clot detection:	Should be provided.			
	Autodilution facility:	For all and high-value samples.			
	Error check:	Automatic flagging for i. out- of- range results ii. absorbance & linearity check iii. reagent stability iv. substrate depletion. v. serum indices.			
	Repeat run facility:	On desired samples.			
	Stat facility:	Provision for emergency samples.			
	Measurements:	Mono & bichromatic with polychromatic correction for interfering substances.			
	Alarm system:	For water, reagent and waste levels.			
	Calibration:	Automatic against standard / calibrator, linear, non-linear and multi-point, logit log. Spline, polynomial & parabola.			

	Quality control: a. 2 levels of control with twin plot . b. Levey - Jennings diagram. c. Westgard multi-rule facility. ***Memory Storage:*** a. Minimum 300 patients result. b. Calibration result. c. Quality control result for 01 month. **OPERATOR INTERFACE** ***Display:*** a. Display of work-lists, patient-wise, sample-wise & test-wise. b. Display of reaction curve, absorbance, and temperature. c. Display of result of real time. d. Display of reaction time. e. Calibration curve graphical display. ***Key board:*** a. Chemical and moisture prevented single touch alphanumeric membrane key panel b. Parallel external key-board. ***Printer:*** Parallel full page printer, preferably laser, with formatting options as per instrument specification. **SOFTWARE** ***Reporting format:*** Conventional units. (Optional/Interconvertible to SI unit). ***Recalculation :*** Recalculation of result following modification of calibration, measurement timings and wavelength. ***Peripheral interfacing:*** *a.* Parallel ports for external printer, key- board and PC. b. Bidirectional RS 232 c. Software PC compatible. Parallel ***Computer:*** *Operating system windows XP/Vista upgradable to higher versions, installed with internet Protection antivirus & MS-Office student version.* ***LAN interfacing:*** System upgradable to on line data transmission through bidirectional LAN .			

	ADDITIONAL ***Deionized water plant:*** *Operated with particlefiltering & RO technology & to be supplied & maintained* ***by the supplier only.*** ***U.P.S.:*** Compatible online 2 KVA UPS with at least 60 minutes back-up. Certification: ISO 9001, European CE, TUV ***Operator's Manual & Service Manual:*** One copy each to be provided.			
	Department of Orthopaedic (For ESI-PGIMSR, JOKA)			
1	**SPECIFICATION OF DIGITAL ELECTRONIC TOURNIQUET:** I. Cuff pressure range: 10 to 450mmHg. II. Pressure regulation: +/- 10mmHG of set point. III. Online Setting: Increase and decrease in pressure settings IV. Timer: Timer range from 9hours to 59minutes. V. Internal least count: Timer 1minute/Internal 1/1000 second. VI. Alarm & Display Indication:- ➢ When set pressure is over ➢ When pressure goes 25mmHg above set pressure. ➢ When pressure goes 25mmHg below set pressure. ➢ In battery mode, when battery voltage reaches 9V. VII. Memory: Pressure set in earlier session is stored and displayed, when machine is switched on again. VIII. Pressure Table: Maintains set pressure under leak condition. IX. Backup: 3hours battery backup. (on full charge) X. Switch over: Automatic switch over from offline to online (vise versa). XI. Power: 230V(AC)/50Hz ± 10% (Voltage fluctuations from 180-270). XII. Stabilizer: Inbuilt.	**01 set**	2000	

	XIII. Cuffs: Different Sizes of five cuffs—washable & easy fitting (Paediatric, small, medium, big & large). XIV. Digital Display: Digital Display of time elapsed, set time, actual and set pressure. **Note:** The System should be CE/US FDA Approved.			
2	**<u>SPECIFICATION OF O.T. TABLE (C-Arm Compatible with Remote Control) -</u>** **C ARM OPERATION TABLE ELECTRO MECHANICAL REMOTE CONTROL WITH EXCEPTIONAL IMAGING AND ORTHOPEDIC POSITIONING FLEXIBILITY.** COMPLETE WITH STANDARD SET OF STAINLESS STEEL Cr Ni 304 ACCESSORIES. **<u>SALIENT FEATURE</u>** I. The Electro-Mechanical Driving through Remote Control Assures Smooth Operating Position including Height Adjustment, Trendelenburg, Reverse Trendelenburg, lateral tilt and Back Section Can is controlled quickly and accurately. II. The Eccentrically position with Radiolucent Table Top (Fluoroscopic Capability) Without Cross members, to optimize image intensifier accessibility for both A/P & Lateral Exposures. Head, Backrest, Trunk and leg. Supported on a heavy Base and Column Covers are made of Stainless Steel for easy Cleaning and hygienic. Castor Lockable with single action break. III. 100% life saving due to low voltage Electricity Supply. Battery back –up. 350 kg LOAD capacity. Removable leg section. IV. Modular inter changeable 6 section table top which allow easy configure action for all surgical procedure. **<u>STANDARD ACCESSORIES.</u>** I. L-Shaped Anesthetic Frame 1pc. II. Shoulder Support with pad 2 pc. III. Lateral Support with pad 2 pc. IV. Goepel Knee Crutch 2pc. V. 50 mm Water proof water mattress. 1 set. **<u>BASIC SPECIFICATION</u>**	**<u>01 set</u>**	40,000	

	I. Normal Table Top Length -2050 mm head section Drawn –in. II. Table top width-500mm. III. Table Height Adjustable Range – 750mm-1050mm. IV. Back rest Up-Down 90°-30°. V. Head section Up-Down -20°-90°. VI. Tredlenburge & Reverse Trendelenberg ±25°. VII. Detachable Leg Section up & down 20°-90°. VIII. Lateral Tilt + 20° /-20º. **HANGING ORTHOPEDIC ATTACHMENT.** **I.** Main abductor special design bars made of non rusting Cr Ni 304 steel allow un obstructed view of patient anatomy. The function principal utilized here bar & socket system. II. Orthopedic Hand Surgery Table Radio-Translucent. III. Wedge- shaped sacral rest made of carbon fiber. IV. Perinial post with pad. V. Universal leg holder with foot support. VI. Counter traction post for neck of femur. VII. Counter traction post tibia & fibula can be swiveled via gear rim joint. VIII. Carbon fiber Hand surgery table. IX. Steinman Pin.			
	Department of Orthopaedic (ESI Hospital , Manicktala)			
1	**SPECIFICATION OF C-ARM MACHINE (IMMAGE INTENSIFIER)-** (C-ARM FULLY MICROPROCESSOR BASED SYSTEM WITH FEATHER TOUCH PANAL) IMAGE INTENSIFIER: •6 & 9 with high imaging System with high performance capability CONTROL PANNEL & GENERATOR: •All operation on control panel k-board. •Microprocessor based control with feather touch panel.	**01 set**	25,000	

- Generator unisearch IMD unit.
- Excellent fluoroscopy.
- Radiography output 25mA. On requirement
- Fluoroscopy: foot switch & on the control panel.
- Kvp variation of 40 -110kvp.
- 3 step mode selection, normal (LIH), PULSE and LIVE control.
- Digital kvp metering display.
- Digital ma metering display.
- Foot switch.

X-RAY TUBE HEAD (User Friendly Design):

- Duel focus having 0.6mmand 1.8mm focus.
- Anode heat storage capacity 30kj.
- Anode cooling rate250 w/hr.
- Type of Generator – khz hf
- X-Ray Tube - Fluro 0.6mm X 0.6mm
- Focal Spot - 1.5mm X 1.5mm
- Fluro / Radio KVP - 40-110kvp
- Fluro mA - 0-4 mA
- Fluro Timer - 5 Minute
- MAS - Up to 200
- Power Requirement - 220V/50-60 hz & 3.5 kw
- Image Intensifier - 9 Inch

C-ARM FEATURE

1. Rotation 360Degree
2. Source to II Distance 90Cms
3. Arc orbital Movements 110Degree
4. Pann movements 0-25Degree
5. Horizontal Travel 22 cms
6. Vertical motorized movement 32cms

	7. Detachable Cassette Holder (Option) 10” x 12”&8” x 10” **TV MONITORS** I. 15” / 17” Colour (Option) II. 625 Lines III. 50-60 hz IV. High resolution display capability monitor. **MEMORY OPTION** I. 26 frame memory II. Computer compatible (Option) III. 100 frame memory (Option)			
2	**SPECIFICATION OF DIGITAL ELECTRONIC TOURNIQUET:-** • Cuff pressure range: 10 to 450mmHg. • Pressure regulation: +/- 10mmHG of set point. • Online Setting: Increase and decrease in pressure settings • Timer: Timer range from 9hours to 59minutes. • Internal least count: Timer 1minute/Internal 1/1000 second. • Alarm & Display Indication:- ➢ When set pressure is over ➢ When pressure goes 25mmHg above set pressure. ➢ When pressure goes 25mmHg below set pressure. ➢ In battery mode, when battery voltage reaches 9V. • Memory: Pressure set in earlier session is stored and displayed, when machine is switched on again. • Pressure Table: Maintains set pressure under leak condition. • Backup: 3hours battery backup. (on full charge) • Switch over: Automatic switch over from offline to online (vise versa).	**2 sets**	4000	

	• Power: 230V(AC)/50Hz ± 10% (Voltage fluctuations from 180-270). • Stabilizer: Inbuilt. • Cuffs: Different Sizes of five cuffs—washable & easy fitting (Paediatric, small, medium, big & large). • Digital Display: Digital Display of time elapsed, set time, actual and set pressure.			
3	**<u>Specification of Battery Drill System: -</u>** **The Cannulated Battery handpiece** •The diameter of cannulation should be 4 mm •Weight of handpiece should be 1200-1400 gm with Battery •Power of the system should be 150 - 200 W •Maximum speed with attachments of to be between 1300 - 1500 rpm •There should be separate forward and reverse triggers •Hand piece should be compatible with radiolucent drive •Instant change between clockwise and counterclockwise rotation should be possible •The system should be fully autoclavable •All Attachments can be fitted on single hand piece •Reliable protection of soft tissue with integrated oscillation mode **Saw handpiece** •Weight of handpiece should be 1700-1800 gm with Battery •Maximum oscillating frequency should be 10,000 - 12,000 osc/min. •The amplitude of oscillation should be 4 - 5° • Saw can be locked in 8 different positions in steps of 45^0 •The system should be fully autoclavable **Power Module** 1. Mode Selector Switch to select Drilling/Reaming, Saw, Oscillating Drill mode 2. There should be a display indicating the battery capacity status 3. Should have a button to diagnose errors in the system **Lid for Hand piece** 1. Fully autoclavable	**<u>1 set</u>**	4000	

2. For holding and preventing fall of Power Module from the Hand piece
3. Mode Selector Switch to select Drilling/Reaming, Saw, Oscillating Drill mode

Batteries

1. The battery should be Litium Ion battery with a minimum life of 1000 cycles
2. No self discharging of batteries and no memory effect should be there in the batteries
3. The capacity of the Battery should be 1.2 Ah
4. Maximum charging time should be between 20 - 40 min
5. The Battery voltage should be 25.2V
6. The batteries should be Safe and easy to handle in the operation theatre

Sterile Cover

1. Made of Stainless steel
2. Fully autoclavable
3. For sterile transfer of Power Module to Battery Hand piece

Universal Battery Charger II

1. Should have 4 charging bays
2. Should be capable of charging NiCd, NiMh and Lithium Ion batteries
3. Should display the charging status of the batteries
4. Keeps inserted batteries constantly fully loaded

AO/ASIF Quick Coupling attachment

1. The diameter of cannulation should be 2-3 mm
2. Maximum Speed should be between 1300 - 1500 rpm
3. Maximum Torque should be between 2-4 Nm

Jacob's Chuck attachment

I. The diameter of cannulation should be 2-3 mm
II. Maximum Speed should be between 1300 - 1500 rpm
III. Maximum Torque should be between 2-4 Nm

	Drill Chuck Keyless I. The diameter of cannulation should be 4-5 mm II. Chuck range should be from 0.5 to 6.5 mm III. Maximum Speed should be between 1300 - 1500 rpm			
4	**<u>SPECIFICATION OF ORTHOPAEDIC ELECTRIC DRILL SYSTEM:</u>** I. Driving Unit includes Motor, Stand, foot Control, Flexible Shaft-1Pc, Tool Kit, Oil Bottle & special container II. Cannulated Drill Hand piece max. speed 1200 RPM & with Fixed S.S.Chuck (0-1/4") III. Reaming Handpiece with Max. Speed 400 R.P.M. Cannulated & AO type quick coupling. IV. Drill Chuck Adaptor with Jacob's Stainless Steel Chuck (USA) V. Pistol Grip Sagital Saw (Set of five blades)	**<u>02 sets</u>**	4000	
5	**1. <u>Specification of Titanium Elastic Nails instrument set:</u>** **Titanium Elastic Nails** • The nail should be available in diameters – 2.0, 2.5, 3.0, 3.5 and 4.0 and length 440mm to cover all indications • The nail tip should be designed in such a way that the insertion is easy and the nail glides along medullary canal. • The design of the nail should allow fracture reduction and facilitate nail manipulation. • The implant should be available in titanium alloy (Ti-6AI-7Nb) that gives mechanical stability and elastic property. • The implant should have markings that allow direct rotational control of the nail tip in the medullary canal to reduce exposure to image intensifier **Titanium Elastic Nail set** • The system should have a double drill Sleeve 4.5/3.2 • The system should have a Drill Bit, 2.7mm dia., L 125/100mm 3-flute, for quick coupling • The system should have a Drill Bit, 3.2mm dia., L 195/170mm 3-flute, for quick coupling	**<u>01 set</u>**	20,000	

	• The system should have a Drill Bit, 4.5mm dia., L 195/170mm 3-flute, for quick coupling • The system should have a Pin Wrench, 4.5mm, L 120mm • The system should have a Spanner Wrench for nos. 357.180/357.181 • The system should have a Slotted Hammer 400g, detachable • The system should have a Locking Pliers that is flat nosed for TEN • The system should have a straight impactor and a bevelled impactor • The system should have an F-Tool • The system should have an Awl that is curved and has a sharp tip. • The system should have an Extraction Pliers with thread for TEN • The system should have a Cutting Pliers for TEN • The system should have a Hammer Guide • The system should have an Inserter • The system should have a SYNCASE Silicone Mat 170 x 460 mm • The system should have a Lid for no. 675.420 • The system should have a Tray, bottom, for Instruments for 675.420 • The system should have a Tray, middle, for Instruments for 675.420 • The system should have a Tray, top, for Implants for no. 675.420 • The system should have a SYNCASE Basic Tray, height 145mm, neutral • The system should have a Transport Case for Syncase			
6	**<u>Specification of Collinear Reduction Clamp –</u>** • The system should have a collinear reduction clamp with sliding mechanism that accepts four different attachment arms which can be mounted in four different positions using the mounting notches to accommodate various fracture types. • The cannulated feed rod of collinear reduction clamp should have a cannulation of ø 3 mm for temporary K wire fixation and a trigger for continuous and variable force application. • The reduction clamp should have a release button for adjustment of the attachment arm and release lever for the adjustment of the feed rod. • The system should have a reduction attachment for reduction against LCP plates for both large and small fragment plates which can be mounted on the tip of feed rod. • The system should also have a reduction attachment for reduction against LCP/ LC - DCP plates and for reduction against the bone which can be mounted on the tip of feed rod. • The system should have a combination wrench of Ø 8.0 mm for mounting the reduction	**<u>01 set</u>**	10,000	

	attachments •The collinear reduction clamp should have various attachment arms which give a reduction tool according to different clinical needs - Hohmann shaped arm; Pelvic Arm; Percutaneous Arm, Bone Hook Shape arm.			
7	**SPECIFICATION OF PULSE LAVAGE SYSTEM:** 1. Irrigation pressure electronically controlled. 2. Autoclavable & reusable tubes of medical grade silicon. 3. Complete Sterility is maintained. 4. Easy loading of the tube in the machine. 5. Efficient peristaltic pump. 6. Water Resistance Display. 7. Foot control operate machine. 8. Pre Set features. 9. Four types of irrigation possible. 10. Inbuilt fuse and voltage control rectifier. 11. Power Supply 230 V AC 50 Hz ± 10% 12. Stainless Steel Body	**02 sets**	2000	
	Department of Pathology (For ESI-PGIMSR, JOKA)			
1	**Weighing Machine for cadavers**	1 pc	2000	
2	**Automated Microtome with UPS 2.0 KVA** . Designed Ergonomically, with very High Safety Standards, convenient to use. Fitted with mechanical High precision Feed system. Zero Backlashes. Maintenance Free, Cross Roller Bearing for Vertical Specimen Movement. Gravitational Force compensation system of Hand Wheel with quick locking system at any position. Maximum vertical stroke length for wide sectioning range & safety while changing specimens. Section thickness adjustment with semi-thin and thin, at least from 0.5 to 60 microns (preferable) with section thickness indicator. Specimen rotation 360˚ with anti-tilt feature. Knife holder system laterally displaceable, to hold conventional as well as disposable knife blades. Two step trimming system, mechanical. Section waste tray with holder. Control Unit for setting of section thickness and other necessary adjustments.	2 pcs	15,000	

	1. Profile C knife of high grade tool stainless carbon steel with polished edge with knife case – **03 (three) Nos**. 2. Disposable superior quality blades with special resin coated edge –**1000(One Thousand) pcs**. 3. Dust proof housing / dust cover.			
3	**cryostat**, chamber temperature -35°C to 0°C, section cutting temperature -50°C, adjustable section cutting speed, different specimen sizes, adjustable specimen orientation over X-Y axis, section thickness 1 to 99µ in 1µ increment, round object holders, specimen holders, waste container, anti-rolling rake, S.S. knife holder, drain cleaning brush, UV Disinfection facility preferable	1 pc	30,000	
4	**Hot plates electric** with digital temperature controller, temperature range upto 300°C, heat-proof powder coated cast iron top, spiral heaters, thermostatic heat control	2 pcs	4000	
5	**Hot Air Oven** Memmert type (50°Celsius) for special staining, insulated S.S. double-wall, interchangeable perforated S.S. racks, air circulating fan, digitally controlled timer and temperature with LED display, shock-proof design, effective space 300mmx300mm, temperature rang 50°C to 250°C± 1.0°C with thermostatic control,	2 pcs	2000	
6	**Paraffin Embedding station**,microprocessor controlled bemch top tissue embedder with modular hot and cold plate, working temperature ranging from 55-75^{o}C and operating temperature for hot plate 20-45^{o}C, Paraffin reservoir capacity- at least 3 litres, cassette holding capacity atleast 100 cassettes, cold plate temperature maintained at -5^{o}C, membrane keypad and LCD screen preferable	1 pcs	30,000	
7	**Electric Vacuum Embedding Bath**	1 pc	10,000	
8	**Autoclave Vertical** with temperature and pressure gauge, secure safety valve; double steam jacketed S.S./gun-metal chamber, S.S. perforated buskets, S.S./gun-metal sliding lid with wing-nut closure, inner chamber dimension 400(dia)x 600(depth) mm approx, automatic low water level cut-off device with water gauge, non-return valve, silicone rubber jointless gaskets, durable rust-proof heating elements.	2 pc	2000	
9	**Distilled Water Still** (Deionizer), removal of inorganic and organic ions, dissolved particles, microorganisms, etc., with vacuum system, analytical grade water purification & electro-deionization system, multi-stage (prefiltration, particle clearing, reverse osmosis, electro-deionization and ultra-violet purification) with display and self performance check, connectivity to data management system/ PC with printer for traceability of water quality	1 pc	20000	
10	**Water Bath Serological** (with precise 37°C, 40°C, 56°C, 60°C and above temperature setting) Digital with Timer	2 pc	6000	
11	**Water Bath Rectangular**	2 pc	2000	

	dimension approx. 450 x 300 x 150 mm . ***Description:*** Double-walled, inner wall seamless corrosion-free polished stainless steel, insulated body and removable S.S. lid, digital microprocessor system for temperature control,water outlet valve, provided with stirrer for even heating, heater cut-off and over- heating alarm, complete with plug and Power cord Indian type . ***Temp. range:*** Selectable within range of ambient (approx.) 25˚C to 80˚C including precise setting of temperatures ***37˚C and 56˚C*** with fluctuation limit of ± 0.1˚C. ***Operating Panel & Display:*** Selector knobs for different functions, *viz*, start, stop, temperature control, temperature and time setting with LED display.Digital display of set and actual running values is preferable. ***Power Cord:***Indian type 3-pin plug top with properly insulated electrical cable ISI marked. ***Tube Racks:*** S.S. Tube racks to hold 12mm x 100mm tubes : 04 No.s.			
12	**Centrifuge Machine Digital** Automated motorized bench-top centrifuge machine with swing-out rotor ; Rotor head capacity of four autoclavable corrosion-resistant metallic round Buckets capable to hold 22-24 x 10ml tubes and standard vacutainer tuibes with cap; Corrosion resistant stainless steel rotor chamber; Automatic programmable lid opening with audible alarm; Aerosol prevented caps of rotor buckets; Range of centrifugal force 1000 rpm - 6000 rpm with increments of 100 rpm; Speed controller and timer; Digital display of rotational speed and time, easy to read; Low noise, with minimal sample heating; To work on standard electrical supply configuration. **<u>Essential Accessories</u>** Additional buckets – 1 set. Corrosion resistant Adaptors : 3ml vacutainer tubes with rubber caps : 1 set 10ml test tubes with Ø mm : 1 set 110mm Wintrobe's Tube with Ø 2.5mm : 1 set 2.5ml Eppendorf tubes : 1 set	2 pc	4000	
13	Colorimeter Photoelectric Digital with auto zero setting, both Absorbance and % Transmittance Reading, scratch-free cuvette uniform thickness for 1.0ml, silicon/photodiode photocell detector, selectable 8 glass filters 400 - 660nm, digital LCD display	1 pc	500	
14	Slide Cabinet for 20000 slides Vertical model S.S. with rust-proof powder-coated paint	2 pc	2000	
15	**Band Saw all S.S. 8 cm with rounded ends electric**,	2 pc	1000	

	Maximum job height 200mm, maximum throat 200mm, approx table dimension 600x600mm, blade size approx 3500x30x1.0 mm(thickness), blade speed 20 to 100 m per min, with saw and coolant motor			
16	Autopsy Table with accessories, S.S. top, heavy-duty wheel castors, provided with wash trap and drainage pipe telescopic instrument tray, rubber body blocks	1 pc	10000	
17	**Automated Tissue Processor** Compact automatic tissue processing system for human tissue specimens. Vacuum Infiltration processor,microprocessor-controlled Reagent reservoirs - 10-13 Paraffin reservoirs - at least three Processing capacity - more than 100 cassettes Fume control - Disposable Carbon Filter Programmable memory User - defined program names Processing time - 0 to 99 hr Provision for Processing delay Temperature Control - Reagent: 35°C to 50°C, or ambient , Paraffin: 45°C to 65°C Provision for Pressure/Vacuum agitation Provision for Pump-In/Pump-Out mixing Provision for Automatic paraffin oven degassing during processing Provision for User-defined clean cycle Provision for Carry-over protection Should have Fail-safe systems through the Bottle Connection Check Should have facility for Reagent Management with Automatic Solution Transfer Online UPS with at least 30 minutes backup to be provided. Following accessories to be provided: Reagent Bottle with cap 12 pcs Cassette Basket 2 pcs Basket Hook 1 pc Paraffin Container 4 pc Scraper 1 pc Activated Carbon Cartridge 1 pc	1 pc	70,000	
18	Staining Racks S.S. horizontal with handle cradle type for 10 slides/ 20 slides	20 pc	100	

19	Tissue Floatation Bath Electric, Microprocessor controlled temperature and timer, Digital Display With jet Black Aluminum Heat Resistant and insulated inner Surface with UPS 0.5 KVA , Thermostatic Control of Temperature . ***Display:***L.E.D. of Power On , Optionally Temperature level. **Essential Accessories** 1. protective Dust Cover 2. UPS 0.5 KVA Capacity. 3. Additional Power Cord With Three Pin plug Top	2 pc	5000	
20	Precision Chemical Balance with assorted precision brass weights 1mg to 200g,	2 pc,	1000	
21	Compound Microscope Monocular, rotatable nose-piece, quadruple parfocal wide-field objectives: scanner, Low-power 10X, High-power 40X and Oil-immersion 100X, pre-set focus lock, horizontal co-axial mechanical stage with X-Y movements and graduated scale with vernier graduations, bright field Abbe type condenser, frosted white and blue replaceable filters, Koehler halogen lamp base illumination replaceable with interchangeable plano-concave mirror in fork mounting on a disc adaptor, Huygenian eye-piece 10X, additional 100X oil-immersion objective fluorite with anti-reflection coating n.a. 1.25, Additional eye-piece 10X	60 pcs	40,000	
22	Magnifying Glass Professional big size	6 pcs	100	
23	Blood Pressure Apparatus Mercury Sphygmomanometer precision with good quality non-cracking rubber tubing, bulb with non-return valve and cuff 26cm, good quality wrapper cloth with velcro, precisely marked glass column, mercury reservoir with lock valve, cleaning brush, in secure metallic case	2 pcs	50	
24	Laboratory Counter Clay-Adams 9 keys spring loaded, including eight individual counting keys and one totalizer heavy duty metallic body, good visibility of rotating digits, digit range 0 to 100 for each, audible alarm at 100 count in total,. Options for counting of cell, simple computation and percentage counting. Individual key counting limit of 999 cells. Bilateral sturdy resetting knobs.	6 pcs	50	
25	Laboratory Stirrer Magnetic Shock-proof	1 pc	100	
26	Automatic Timer Clock Digital with Split and Lap timer, range upto 3 hours	6 pc	100	
27	Precision Weighing Balance Scale (for organs) digital 10000g(approx), readability 1.0g, delta range 0.1g, absolute, % and dynamic weighing, result in g, lb and oz, washable rust-proof and spouted S.S. weighing pan, calibration weight,	4 pc	4000	

	LCD display, power pack, AC adaptor with extension cord printer with normal paper, cover			
28	Bone Saw 8 inches blade rounded point, high carbon steel blade to withstand 70°C temperature of friction, sharp cutting edges of teeth, ergonomic handle design	2 pc	50	
29	Bone Nibbler	2 pc	50	
30	Drill for boring glass	2 pcs	100	
31	Blow piece with bellow for bending glass	2 pcs	50	
32	X-Ray View Box for quadruple Plate side by side with top S.S. roller gravity plate clip, illuminator, even view reflecting system, powder coated rust-proof finish, individual panel and central switches	2 pcs	500	
33	Sternal Puncture Needle (Klima and Salah type)Heavy duty stainless steel made, with total assembly comprising of aspiration needle with adjustable guard and trocar, ***Size:***15G, 1 7/8inches Adult size	6 each	100	
34	Sternal Puncture Needle(Klima and Salah type) Heavy duty stainless steel made, with total assembly comprising of aspiration needle with adjustable guard and trocar, ***Size:*** 18G, 1 ½ inches Child size	6 each	100	
35	Liver Biopsy Needle Trucut needle s.s.	6 pcs	100	
36	Box weight analytical	1pc	50	
37	Stop watch digital with LED/LCD display reading at 1/5 display	6 pc	100	
38	Ultra-violet lamp table top model	1	2000	
39	pH meter microprocessor controlled ***pH range:*** 0 – 14 pH Units. ***mV range:*** 0 to ± 1999 mV. ***Resolution:*** 0.01 pH; 1 mV. ***Accuracy:*** ±0.01 pH ± 1 digit; ± mV ± 1 digit	1	2000	

	Operating temperature: 10˚C to 50˚C. ***Operating Panel & Display:***Panel for different functions with digital LED Display			
40	**Microscope Research with camera and side observation tube** ***Optical System :***Infinity Corrected Optical System. ***Illumination System:*** Built in Koehler Illumination System replaceable LED Lamp, with adjustable intensity. ***Objectives:*** Plan achromat spring-loaded wide field objectives fixed in a rotatable nose piece- par focal and par centric , Quadruple .4x, 10x, 40x, 100x. ***Observation Tube:*** Trinocular head for camera, penta-head side attachment with provision for bright-field, polarization, fluorescence microscopy, dark field and phase contrast , provision for mounting of digital camera , rotatable, inter-pupillary distance adjustment. ***Eye piece:*** Paired 10 x wide field Eye Piece with micrometer scale 10mm divided into 100 parts with centering cross hairs and green/yellow illuminated pointer ***Special provision :*** Anti-fungus treatment of the lenses of Observation Tube, Eye-pieces and Objectives. ***Mechanical Stage:*** Rack less calibrated Mechanical Stage with preferably wire movement .Focus lock. ***Condenser:*** Abbe type with 0.1 n.a. and built in filter. ***Observation Tube:*** Binocular multilevel adjustable vertical axis tilting Inclination range between 15˚ to 45˚, 360 ˚ rotatable, inter-papillary distance adjustment. ***Filters:*** Interchangeable filters. ***Adjustent Knobs:*** Ergonomic focusing adjustment screws and stage drive knobs. ***Image retrieval :***Digital menu-driven cool CCD camera of appropriate resolution and appropriate zoom, with LCD monitor, including 1 GB memory card and 2.0 port, image adjustment for saturation, contrast and sharpness, JPEG image modes of different selectable shooting modes, provision of different resolution grades with adjustments, control unit and with measurement and control facilities, external LCD or TFT monitor for live image viewing. ***Computer Attachment:*** Computer and printer attachment facility should be available in the microscope with software for transfer of image data, image analysis and input of text . Color print in photographic and non-photographic paper ***Micro projection Apparatus:*** Image projection to screen from Computer or Microscopic camera with magnification 20X to 2000X	1	30,000	
41	**Electrophoresis Apparatus Horizontal automated** ***Application:*** Serum protein profile, Urine protein profile, CSF protein profile, and Hemoglobin profile. ***Description:*** *1*. Automated complete system including integrated all working station, sample placing, reagent addition, result recovery without manual intervention . *2*. Sequential sample application , reagent addition and reading in an integrated work station .	1	4000	

	3. Horizontal electrophoresis system gel unit and gel dryer. *4.* Sample loading station consisting sample plate , application and strip Holder, multiple independent sample application probes , auto rinsing for zero carry over . *5.* Migration support – cellulose acetate Strip **/** gel or any other comparable medium suitable for the system which is readily available in the market. *6.* Multichannel solid state densitometer supporting fast analysis and display; automatic protein fraction identification; automatic zeroing; supported by a acceptable range of linearity and reproducibility.. *7.* No fluidic system. *8.* Monoblock migration chamber with electrodes supporting fast migration. *9.* Multi reagents tanks with independent loading and refill of reagents / gel automatic staining and de-staining ,incubation and drying *10.* On-line monitoring of the entire process. *11.* Versatile power supply unit with voltage adjustment. *12.* Data management system with built –in display. Key board. Microcontroller software based. *13.* System supporting auto interpretation of result, color print of chromatogram and gel. *14.* Option for quality control , data storage, etc. *15.* Capability of generating reports with graphic and photographic presentation of electrophoretic bands , electro chromatograph analytic values. *16.* Analytical capability for serum protein profile , urine protein profile , CSF protein profile , hemoglobin, profile, lipoprotein and isoenzyme. . *17.* Availability of reagents in the local market / by the supplier. *18.* Option for data transfer to PC through a compatible port ; data management software; data storage facility. *19.* Reporting prints incorporating result data numerical, electrophoretic bands and Densitometeric peaks in external printer either supplied as a part of manufacturer's Consignment, otherwise to be supplied along with the system of suitable Specification. *20.* UPS capacity 2.0 KVA. *21.* Standard accessories as specified by the manufacturer along with the consignment. *22.* Dust cover for all components of the system. *23.* Chemicals, medium, buffers, eluting reagents and staining solution, etc. as start-up kit.			
42	**Surgical Instruments assorted**	2 sets	4000	

	Autopsy knife blade 100mm with handle			
	Autopsy knife blade 170mm with handle			
	Autopsy knife blade 325mm with handle			
	Dissecting scalpel blade curved tip with handle			
	Dissecting scalpel blade pointed tip with handle			
	Forceps Artery 7.5 inch			
	Forceps Cartilage Curved 5 inches			
	Forceps Cartilage Straight 5 inches			
	Forceps dissecting plain serrated jaws broad tip 5.5.inches			
	Forceps dissecting plain serrated jaws broad tip 7.5.inches			
	Forceps dissecting plain serrated jaws Fine tip 5.5.inches			
	Forceps Iris			
	Forceps Sinus			
	Forceps Specimen			
	Forceps Tissue 5 inches			
	Forceps Tissue 8 inches			
	Knife Professional 250x20mm			
	Knife Senior 225x25mm			
	Mallet S.S.			
	Needle Teasing S.S.			

	Probe Curved end S.S. Probe Straight S.S. Scissors Angle Fine Pointed Dissecting 4.5 inches Scissors Fine Pointed Curved 5.5 inches Scissors Fine Pointed Straight 4.5 inches Scissors Mayo Dissecting Curved 5.5 inches Scissors Mayo Dissecting Straight 5.5 inches Scissors Mayo Dissecting Straight 9 inches Scissors Surgical Curved blunt/sharp point5.5 inches Scissors Surgical Straight blunt/blunt Scissors Surgical Straight sharp/sharp Speculum Nasal Sponge Holder Surgical blade holder 6 inches Trimming knife blade 130mm with handle Trimming knife blade 260mm with handle			
43	**Dark Room Lamp**	1	50	
44	Slide Box slotted polystyrene/ polycarbonate/ABS for 100,50,25 slides	25 each	100	
45	Cutting Board Rubber Board Dissecting Surface Tough Quality Formalin resistant 45x35 cm	2	50	

46	Dressing Drum S.S. 225x225mm	2	100	
47	Bowl with cover S.S. 20 inches	5	50	
48	Bowl with cover S.S. 10 inches	5	50	
49	Deep Pan S.S.	5	50	
50	Paraffin Pouring Pitcher with long spout and heat resistant handle S.S.	2	50	
51	Slide Tray aluminum with flat slots for 20 slides	25	50	
52	Tray instrument with cover S.S. 15x18 inches	5	50	
53	Tray instrument with cover S.S. 12x14 inches	5	50	
54	Tray Kidney S.S. 6 inches	5	50	
55	Tray Kidney S.S. 8 inches	5	50	
56	Sampling scoop S.S.	2	50	
57	Sampling spatula S.S. 6 inches	2	50	
58	Sampling spatula S.S. 10 inches	2	50	
59	Funnel S.S. dia 10mm/4 inches	5	50	
60	Funnel S.S. dia 15mm/6 inches	5	50	
61	Mortar and pestle chinaware robust big size	5	50	

62	Aluminum perforated Basket Medium Size with carry handle	5	50	
63	Bunsen burner gas operated hooded	25	100	
64	Object chuck/ block holder S.S. 25mm dia	10	50	
65	L-Moulds brass in pairs 37x25x15 mm	10	50	
66	L-Moulds brass in pairs 50x25x15 mm	10	50	
67	L-Moulds brass in pairs 75x30x15 mm	10	50	
68	Tissue capsules/cassette perforated S.S.28x28x9 mm	20	50	
69	Tissue capsules/cassette perforated S.S. 20x20x9 mm	20	50	
70	Tissue capsules/cassette perforated S.S. 36 mm diax 9 mm	20	50	
71	Microtome Knife Carbon steel Profile C 120 mm	2	50	
72	Microtome Knife Holder with handle	2	50	
73	Belgian Hone Best quality	1	50	
74	Leather Strop superfine quality double sided	1	50	
75	Knife Sharpener automatic	1	5,000	
76	Post-mortem set Autopsy knife blade 100mm with handle Autopsy knife blade 170mm with handle	2 sets	4,000	

	Autopsy knife blade 325mm with handle Calipers Curettes Cuscoe’s speculum Dilators Enterotomes and viscerotomes Forceps Artery 7.5 inch Forceps Cartilage Curved 5 inches Forceps Cartilage Straight 5 inches Forceps dissecting plain serrated jaws broad tip 5.5.inches Forceps dissecting plain serrated jaws broad tip 7.5.inches Forceps dissecting plain serrated jaws Fine tip 5.5.inches Forceps Iris Forceps Sinus Forceps Specimen Irrigation device Kidney tray 8 inches Knife Brain Knife Cartilage Knife Professional			

	Knife Resection Metallic ruler tape flexible Nasal speculum Needle holders Retractors Rib shears Scalpels assorted sizes Scissors Angle Fine Pointed Dissecting 4.5 inches Scissors Dissecting Scissors Fine Pointed Curved 5.5 inches Scissors Fine Pointed Straight 4.5 inches Scissors Iris Scissors Mayo Dissecting Curved 5.5 inches Scissors Mayo Dissecting Straight 5.5 inches Scissors Mayo Dissecting Straight 9 inches Scissors Metzenbaum Scissors Surgical Curved blunt/sharp point5.5 inches Scissors Surgical Straight blunt/blunt Scissors Surgical Straight sharp/sharp Sternal Saw			

	Stryker Skull Saw Surgical staplerwith reloadable staple cartridges Tenaculum Towel forceps Tray 12 x 12 inches Tray 12 x 18 inches Trocars			
77	Bone marrow Biopsy Needle Jamshidi Type Heavy duty stainless steel made two piece, with light weight T-Handle streamlined and ergonomic design, trocar with tapered stylet point and triple crowned cannula tip.Adult type, 11G, Stainless steel instrument tray with lid 8 inches x 8 inches	2	50	
78	Bone marrow Biopsy Needle Jamshidi Type Heavy duty stainless steel made two piece, with light weight T-Handle streamlined and ergonomic design, trocar with tapered stylet point and triple crowned cannula tip.Pediatric type, 13G, Stainless steel instrument tray with lid 8 inches x 8 inches	2	50	
79	Test tube rack HDPE 30positions	5	100	
80	Bone decalcifier electric	1	4000	
	CLINICAL LABORATORY (For ESI-PGIMSR, JOKA)			
1	**Compound Microscope Binocular**, rotatable nose-piece, quadruple parfocal wide field objectives: scanner, Low-power 10X, High-power 40X and Oil-immersion 100X, pre-set focus lock, horizontal co-axial mechanical stage with X-Y movements and graduated scale with vernier graduations, bright field Abbe type condenser, frosted white and blue replaceable filters, Koehler LED lamp base illumination, Huygenian eye-piece 10X, additional 100X oil-immersion objective fluorite with anti-reflection coating n.a. 1.25, Additional eye-piece 10X	06	20,000	
2	**pH Meter digital** ***Principle:*** Microprocessor controlled equipment. with automatic/manual temperature compensation ***pH range:*** 0 – 14 pH Units. ***mV range:*** 0 to ± 1999 mV. ***Resolution:*** 0.01 pH; 1 mV.	2	100	

	Accuracy: ±0.01 pH ± 1 digit; ± mV ± 1 digit ***Operating temperature:*** 10˚C to 50˚C. ***Operating Panel & Display:*** Panel for different functions with digital LED Display.			
3	**Centrifuge Machine digital** ***Principle:***Electrically operated table-top equipment with timer, Rotor and rotor speed Controller. ***Speed range:*** Speed Up to 10000 rpm . ***Lid assembly:*** Thick gauge metallic or acrylic with secure lock system. ***Rotor:*** Angle rotor, Buckets to hold at least 12 tubes, each of volume 15ml. Autoclavable polypropylene reduction adaptor for 2ml. 5ml, 7ml and 10 ml tubes. Provision for protection of glass tubes breakage. ***Operating Panel & Display:*** Button and/or dial panel for different functions and programmes,viz, start, stop, lid opening, speed control, speed and time setting with LED/LCD Display. Display of set and actual running values is preferred.	5	10,000	
4	**Hemacytometer Improved Neubauer with precision bright line ruling and triangular moat** ***Accessories:*** Cover glass 1mm thickness rounded corners WBC Pipette precision with white bead and ruling at 0.5, 1 and 20 RBC Pipette precision with red bead and ruling at 0.5, 1 and 101	60	5,000	
5	Hemoglobinometer Sahli with good quality comparator box, square type hemoglobinometer tube with ruling in g/dl and %, precision Hemoglobinometer pipette with 20µl mark, good quality rubber tubing and mouth-piece, dropper and cleaning brush	60	1000	
6	**Incubator Electrical & Insulated.** Dimension around 600±10 mm × 600±10 mm × 600±10 mm. Capacity 210±10 Litres Required Temperature range 5˚C above ambient to 65˚C. / 70˚C.with accuracy of ± 0.5 ˚C, optimum temperature range 37˚C ± 2˚C . PID microprocessor controlled temperature adjustments with sensor. Outer wall corrosion resistant mild or preferably stainless steel and heat & moisture resistant painted, inner wall preferably copper made or stainless steel, gap between the walls should be filled with high grade insulated glass wool, door fitted with chrome-plated hinges with spring and automatic roller lock. Provision of automated lock system to protect from unauthorized manipulation. Perforated and adjustable stainless steel shelves. Heating Elements long-lasting in all three sides. Fitted with adjustable ventilation shutters. Digital LED Indicator for temperature and time-lag and alarm system with thermostat, Temperature controller, Delay & Process Timer and ON/OFF switch. Good quality and	1	2000	

	heavy duty power cord. Equipment to work on 220 / 230 volts A.C			
7	**Sedimentation apparatus Westergren with** 1. metallic rack with spring-loaded pipette holder and round base with rubber cushion, provided with spirit level 5 station 2. Glass Westergren pipettes, class A glass with precision etched and printed marks and ground lower end and smooth rounded top end : 5 (Five) tubes 3. Pipette filler for Westergren tube : 1 (One) No.	12 sets	1000	
8	**Sedimentation apparatus Wintrobe with** 1. metallic rack with screw adjusted pipette holder and round base with rubber cushion 5 station 2. Glass Wintrobe's tubes, class A glass with precision etched and printed marks in mm in both ascending and descending order, polished and rounded opening : 5 (Five) tubes 3. Glass Landau's tubes, class A glass with bulb and precision etched and printed marks at 0 to 50 mm : 5 (Five) tubes 4. Filling pipette with long stem and rubber teat : 5(Five) No.s	5 sets	100	
9	Urinometer precision glass with mercury bulb and graduated stem with temperature mark	20	500	
10	Albuminometer Esbach's Corning glass with precision marking with corrosion-resistant rubber stopper in wooden/polymer case	20	500	
11	Water Bath dimension approx. 450 x 300 x 150 mm . ***Description:*** Double-walled, inner wall seamless corrosion-free polished stainless steel, insulated body and removable S.S. lid, digital microprocessor system for temperature control,water outlet valve, provided with stirrer for even heating, heater cut-off and over- heating alarm, complete with plug and Power cord Indian type . ***Temp. range:*** Selectable within range of ambient (approx.) 25˚C to 80˚C including precise setting of temperatures ***37˚C and 56˚C*** with fluctuation limit of ± 0.1˚C. ***Operating Panel & Display:*** Selector knobs for different functions, *viz*, start, stop, temperature control, temperature and time setting with LED display.Digital display of set and actual running values is preferable. ***Power Cord:***Indian type 3-pin plug top with properly insulated electrical cable ISI marked. ***Tube Racks:*** S.S. Tube racks to hold 12mm x 100mm tubes : 04 No.s.	02	4000	

12	**Test tube holder brass body with wooden handle**	60	100	
13	**Crucible with pestle chinaware tough quality**	2	50	
14	Crucible Gooch with adaptor	2	50	
15	Balance sensitive electronic precision weighing balance 2000g (approx) with display and UPS**.** Electronic precision balance with chemical and moisture proof stainless steel top-fitted weighing surface; LCD display panel and control panel; interfaced peripheral printer with key-panel; functional for piece counting, % weighing and dynamic weighing; provision of display of weight in mg / gm must be there; easy calibration, cleaning and maintenance; to be supplied with full documentation of precision & accuracy certificate. Maximum capacity: Approx. 12000g Readability : 0.1g Repeatability : 0.1g Linearity : ± 0.3g (at ambient temperature) **Essential Accessories** ***1***. UPS of capacity 0.5 KVA. ***2.*** Power cord Indian type. ***3.*** Extension cable 5m. ***4.*** Calibration weight. ***5.*** Protective cover.	2	2000	
16	**Balance chemical with fractional weights**. Conventional chemical balance , corrosion and rust prevented metallic body resistant to expansion on heat; corrosion prevented balance pivot wedges; rust and corrosive-chemical resistant stainless steel double weighing pans; zeroing mechanism; side opening glass cabinet with base screws. Weight box holding calibrated brass fractional weights resistant to rust and sulfation; provided with forceps. Weight range 1 mg to 200 g.	2	5000	
17	**Laboratory refrigerator** Frost Free See-Through Door Laboratory Refrigerator approx. 600 Litre capacity. Uniform temperature maintains within temperature range of 4°C ± 2°C with ± 1°C variation. The freezer temperature should be > minus 20°C. The system should have provision to prevent moisture condensation in humid weather.The cabinet constructed of minimum 10 gauge steel, bacteria resistant powder coated exterior, CFC free urethane refrigerant insulation, recessed interior floor to contain spills (preferable), magnetic seal self-closing single glass door with no mechanical latches, preferably with full length handle for ergonomic use and durability, key- lock, mounted on durable	2	20,000	

	castor wheels, plastic coated trays with adjustable gap, provision of automatic evaporation of condensate. Internal CFL lighting with control mounted switch as standard. Built-in temperature sensor, recorder and control unit. Digital LED display of temperature. Standard conforming CE Mark & ISO 9001:2000(SGS) ***N.B.*** This specification is not meant for Laboratory grade commercial or modified commercial refrigerator . **Essential accessories** 1. Power cord Indian type. 2. Seven day electronic chart recorder with battery back-up. 3. UPS of appropriate capacity and CVT (if not in-built provided)			
18	**Needle Burner and Syringe Cutter** Small size Table Top Model , connection cord with 3 Pin plug top, durable metal body with electrical needle burner for 30 to 20 gauge, burning temperature 1400°C to 1800°C , tough and sharp spring handle operated syringe shredder , Destruction time 1.5 to 3 sec insulated body with flash-guard, detachable waste collector	5	100	
19	**Microscope Research** ***Optical System :***Infinity Corrected Optical System. ***Illumination System:*** Built in Koehler Illumination System replaceable Halogen Lamp, with adjustable intensity. ***Objectives:*** Plan achromat spring-loaded objectives fixed in a rotatable nose piece- par focal and par centric , Quadruple .4x, 10x, 40x, 100x. ***Observation Tube:*** Trinocular, triple viewing Attachment with provision for bright-field, polarization, fluorescence microscopy, dark field and phase contrast , provision for mounting of digital camera , rotatable, inter-pupillary distance adjustment. ***Eye piece:*** Paired 10 x wide field Eye Piece with micrometer scale 10mm divided into 100 parts with centering cross hairs and green/yellow illuminated pointer ***Special provision :*** Anti-fungus treatment of the lenses of Observation Tube, Eye-pieces and Objectives. ***Mechanical Stage:*** Rack less calibrated Mechanical Stage with preferably wire movement .Focus lock. ***Condenser:***Abbe type with 0.1 n.a. and built in filter. ***Observation Tube:*** Binocular multilevel adjustable vertical axis tilting Inclination range between 15˚ to 45˚, 360 ˚ rotatable, inter-papillary distance adjustment. ***Filters:*** Interchangeable filters. ***Adjustent Knobs:*** Ergonomic focusing adjustment screws and stage drive knobs.	1	30,000	

	Image retrieval :Digital menu-driven cool CCD camera of appropriate resolution and appropriate zoom, with LCD monitor, including 1 GB memory card and 2.0 port, image adjustment for saturation, contrast and sharpness, JPEG image modes of different selectable shooting modes, provision of different resolution grades with adjustments, control unit and with measurement and control facilities, external LCD or TFT monitor for live image viewing. ***Computer Attachment:*** Computer and printer attachment facility should be available in the microscope with transfer of image data and input of text . Color print in photographic and non-photographic paper ***Micro projection Apparatus:*** Image projection to screen from Computer or Microscopic camera with magnification 20X to 2000X			
20	**Roller mixer electrical with two way rolling for 6 vial**	2	100	
21	**Test tube rack HDPE 10 positions**	60	100	
22	**Dispenser Bottle Top 1 – 10ml with bottle 500ml amber glass**	2	100	
23	**Slide Box slotted polystyrene/ polycarbonate/ABS for 100 slides**	5	50	
24	**Spectrophotometer** ***Analysis Option:*** a. Absorbance b. 1 point end linear & non linear. c. 2 point end linear & non linear. d. Rate linear & non linear. e. Immunoturbidimetry. ***Light Sources:*** Pre aligned Quartz halogen lamp. ***Wave Length:*** Automatically Selectable narrow band interference quartz filter within wavelength of 340 -700 nm -- fixed seven or eight filters and two optional filters as per users choice. ***Measurement Time :*** Selectable. ***Cuvette*** a. Flow cell Cuvette. b. External rectangular Cuvette. ***Cuvette Temperature:*** Peltier control & programmable at **25˚C, 30˚C** and **37˚C.** ***Aspiration System:*** Motor driven pump. ***Aspiration Volume*** Programmable. ***Cuvette Blanking:*** Automatic. ***Programmable Parameter:*** **About 100 user defined** test programs including routine biochemical parameters, enzymes,	1	5000	

	immunological markers, truly open system, selection through key- board. ***Calibration:*** Automatic against standard / calibration. ***Quality control:*** a. 2 levels of control (at least) b. Levey - Jennings diagram. c. Manual entry of QC ***Memory Storage:*** a. Minimum 200 patients result. b. Calibration result. c. Quality control result for 01 month. ***Display:*** a. Graphic LCD. b. Display of reaction curve, absorbance, temperature. c. Display of result of real time. d. Graphical display of reaction time. e. Calibration curve graphical display. ***Key board:*** a. Chemical and moisture prevented single touch alphanumeric membrane key panel. ***Printer:*** ***a.*** Built in thermal printer with full graphic facility. b. Parallel full page ink printer with formatting options. ***Reporting format:*** a. Conventional b.SI unit(Optional/Interconvertible). ***Recalculation :*** Recalculation of result following modification of calibration, measurement timings and wavelength. ***Automatic Flagging:*** a. Absorbance and linearity cheek. b. Reagent stability. c. Substrate depletion. ***Peripheral interfacing:*** ***a.*** Parallel ports for external printer , key- board and PC. Software PC Compatible. ***Power Cord*** Indian Type 3-pin power cord locally available and replaceable . ***Dust Cover*** Washable dust-covers for main unit and key-board, etc. ***Working Manual*** Working Manual in original			
25	Lumbar puncture needle s.s.	12	50	
	Department of Forensic Medicine(For ESI-PGIMSR, JOKA)			
1	**Automatic tissue processing machine** 1 basic instrument, 10 PE reagent beakers, 2 Paraffin baths, 1 standard cassette basket of stainless steel, 1specimen	1	2000	

	cover, 1tool kit -instrument should have permanent memory of 9-10 stored processing protocols -highly resistant reagent vessels made of polypropylene or equivalent with capacity to hold 1.5-1.8 litre of reagent -should be equipped with centrifugal agitation or vacuum for better infiltration & to avoid carry over contamination -paraffin bath supplied should be sturdy & temperature programmable from 50-75^0 C with over temperature cut off facility -should have facility of battery backup for 15 min for safety of tissue during power failure so that the tissues are immersed into the nearest station - should have built in feature of error massage, audible alarm, warning signal for safety -should have option of locking the keypad to avoid inadvertent operation during programme run -infiltration time programmable from 5min-99hrs			
2	**Autopsy table** -Made of stainless steel 14 Gauge with built in large sink at one end & facility to connect to drainage pipes. **Table dimensions** **Full table** Length 111” Breadth 33” **Sink** Length 27” Breadth 15” **Height after installation** Head end 37.5” Foot end 35” (dimensions +/- 2cm) -Manufactured without rivets, bolts or other devices. -2 piece construction for easy installation -three solid stainless steel sliding body support with wooden headrest -wrist operated stainless steel faucet with hot & cold water flow control valves	2	3000	
3	**Cold storage 4 body chamber for keeping dead bodies** Standard dimensions to accommodate dead bodies of all ages -Rigid polyurethane foam Insulation (CFC free) -locking mechanism:- Cam lock embedded in foam -roof top mounting unitary refrigeration system -digital display temperature indicator	1	2000	

	-with vapour proof incandescent lamp. -Mortuary tray:- one piece stainless steel tray with tubular edge and sturdy handles			
4	**Microscope student type** -Monocular head 45^0 inclined -Quadruple ball bearing nose piece 4x, 10x, 40x & 100x oil immersion -Mechanical stage with X & Y movements 55mm & 75mm -Co-axial course & fine focusing with lock. -Abbe condenser NA 1.25	25	3000	
5	**Microscope binocular research type** 45^0 inclined with 360^0rotatable binocular tube -co-axial mechanical stage with fine vernier granulation for jerk free slide manipulation 50x75mm - Quadruple ball bearing nose piece - Co-axial course & fine focusing with lock. -Built in illumination 6V, 20W halogen lamp -mechanical tube length 160mm with battery backup	3	1000	
6	**Balance chemical with weights** Pan diameter- 7.5cm, Capacity- 200gm, Sensitivity- 0.2mg	1	500	
7	**Digital balance single pair for weighing foetus** Large weighing S.S. pan, weighing capacity up to 15 kg	1	50	
8	**Digital weighing machine for weighing dead bodies** Display weight up to 300kg, 4 inch digital display, accuracy ±20 gm -Platform for keeping the body should be sturdy, made of stainless steel, 14 gauge, size- 6 feet x 2 & half feet -should be able to adjust weight of platform.	1	100	
9	**Hack Saw** 12" stainless steel hacksaw frame tubular with plastic handle with fine cutting blades	4	50	

10	**Dissection set** Consisting of cartilage knife, bone cutting forceps, scissors- straight & curved, enterotome, scalpel knives with spare blades, probe metal scale graduated in cm made up of good quality stainless steel.	4	50	
11	**Rib shears right and left** Complete set made up of good quality stainless steel	4	50	
12	**X ray view box four in one** Metallic body fixed type, wall hung with white light	4	50	
13	**View box two in one** Metallic body fixed type, wall hung with white light	3	50	
14	**Anthropometric set** Consisting of vernier calliper sliding 60 cm , 15 cm vernier calliper, one height measuring stand and one steel measuring tape	1	100	
15	**Microtome with knife** -Range of selection thickness- 0.5 to 100 micrometer. From 0.5 to 1 micrometer in 0.5 micrometer increment and from 1 micrometer to 100 micrometer in 1 micrometer increment -Sectioning Modes- 1) Manual sectioning 2) Semi automatic 3) Fully automatic	1	2000	
16	**Hot plates** -Durable die cast aluminium case accommodating up to 20Ib (09.1kg) load -Heating surface area 17-18cm x 17-18cm -temperature range	1	1000	
17	**Paraffin embedding bath** -Paraffin reservoir capacity 3-5 litre **Temperature range** -paraffin reservoir $(50\text{-}70)^0$ C (+/- 2^0 C)	1	1000	

	-work surface (50-70)^0 C (+/- 5^0 C) -tissue holding tank (50-70)^0 C (+/- 2^0 C) -cold plates 5^0 C to 15^0 C to ambient -should have built in forceps warmer, foot switch and /or push button activated paraffin dispensor -there should be membrane keypad and LED to set & display operating parameters, current status, running time and alarm for time and temperature - should display error codes in case of malfunction. Error codes should be indicative of system failure or single module failure.			
18	**Slide warming table** 12x10 inch (+/-1 inch) stainless steel top with regulator for heating slides to uniform temperature just below melting point of wax	1	500	
19	**Stone carborandom** Carborandom stone/ razor hone double sided (coarse & fine) motorized	2	50	
20	**Water bath (tissue floating)** For precise control of different samples at constant temperature -temperature controlled by capillary type thermostat from ambient to80^0 C with an accuracy of+/- 1^0 C -diameter 250 to 280mm -depth 125 to 135mm	1	500	
21	**Distillation plant** Stainless steel construction, electrically operated -capacity 4 litre/hour -heater 4KW capacity	1	500	
22	**Brain knife** Stainless steel, non rust standard -length 12”	8	50	
23	**Digital spectrophotometer** -range 340-960nm, with facility for automatic concentration, % transmission and absorbency measurement	1	2000	

	-3.5” separate three digit LED digital display for wavelength in nm -equipped with set of 10 test tubes			
24	**Digital pH meter** Standard table model, microprocessor based -Based on advanced SMT technology -two point push button -auto buffer recognition -self diagnostic with message code display -automatic temperature compensation Simultaneous display of measured values pH/mV	1	100	
25	**Handset heat sealer** Standard type	1	50	
26	**Spectroscope lens with adjustable slit** To view and measure spectral lines from various light sources	2	50	
27	**Wheeled trolley** Stainless steel mortuary trolley for body transportation, mirror type top -Weight capacity 270- 300kg	1	50	
28	**Instrument trolley** Stainless steel Instrument trolley with three shelves with guard rails on three side -With swivel castors Small:- 66x44x87cm (LxWxH) Large:- 91x45x82cm (LxWxH)	1	50	
29	**Instrument cabinet** Steel Instrument cabinet, rust proof 90x50x185 cm(+/-5cm) -glass door	1	100	

	- 5 shelves adjustable with good bearing capacity			
30	**SLR camera with accessories** Standard type	1	100	
31	**Stopwatch** Digital stopwatch with large LED display Hrs : min : sec type	2	50	
32	**Osteometric board** 70-80cmx 13-15cmx 11-12cm Made up of non-breakable transparent material	2	50	
33	**Magnifying glass with metal handle** Traditional	5	50	
34	Stethoscope Traditional	3	50	
35	**Thanatometer** Mercury thermometer for measuring rectal/ subhepatic temperature in dead bodies Range 0-50^{0}C, 25 cm long with protective cover	2	50	
36	Sphygmomanometer (B.P. Apparatus) Traditional with mercury manometer and armlet rubber bag	4	50	
37	Equipment for reporting height Made of sturdy anodized aluminium , stadiometer with foot plate and lock knob for measurement accuracy with calibration cm, inches and feet	2	50	

38	Weighing machine dial type human Upto 150 kg	2	50	
39	Digital weighing machine for organ Stainless steel platform, size 1.5feetx 1.5 feet, digital display -measurement can be calibrated to adjust the weight of plateform	2	50	
40	Clinical thermometer Traditional type	2	50	
41	Stykar autopsy saw with accessories Light weight equipment, 10 feet cord with hospital grade plug -should cut bone easily to minimise operator fatigue - Saw should be attached to HEPA bone dust collector.	2	100	
	Department of Pharmacology (For ESI-PGIMSR, JOKA)			
1	**Starling Long Extension Kymograph with time marker** Should be having superior quality metal gears, accurate, mill cut ratio 40,10,2.5 & 0.625 mm per second, speed change clutch with intermediate off position, Cylinder 6X11" with crown wheel engaging shaft. Turning by hand if necessary. Moving in slot in bed allowing variation in paper length for 60" to 66". Rigid cast Iron stand which should work up down by large screws with find adjustment facility. To be supplied with accessories: Double time marker. Mercury manometer, Separate smoking varnishing apparatus and smoking Burner	1	1000	
2	**The Ideal Respiration Pump (500 cc capacity)** Single cylinder pump with mechanically operated valve. All metal construction	1	500	
3	**Brodi's operation tables**	1	100	

	As per the standard Brodie design, top 51"X18'X40" high, fitted all round with cleats, metal hot plate 24'X12' with heating chamber heated with two electric bulbs; removable 11"89" head piece; two stainless steel upright rods sliding in slots; dog holder with its upright and universal joint; controlling switches. Two partition shelves to be provided for accessories etc. Wheels and handles are fitted. The Brodie's Anesthetic Bottle and Air warmer is an optional accessory should be able to use for variety of applications. Table top stainless steel of size minimum of 125X48 cms. With drainage system and railing all along the length to hold accessories. The vertical adjustment should be through pinion – Lift system. Should be complete with warming system, animal holders & stainless steel tray.			
4	**Manometers Mercury** All Manometers are fabricated from true-bore Borosilicate glass, floats are perfectly, lapped to eliminate leakage and are fitted with feather weight stainless steel capillary. Standard Mercury Manometers: Without stopcock, with adjustable scale.	1	50	
5	**Marey's Tambours** Traditional (5cm to 10cm diameter)	2	50	
6	**Operating lamps** Traditional	1	100	
7	**Physiographs with transducers, couples and other relevant accessories** (Earthing chord, chart paper, ink pen, ink etc.) Recording system, amplifier, different couplers like bio potential, EKG, strainage, pulse respiration, temperature and isotonic couplers, speed selection is easy and instantaneous. Channel width is 70 mm, Ink writing pen is 120 mm in length to minimize arc distortion. Main Amplifier is fitted in the console having switch selectable sensitivity range from 50 microvolt per cm to 100 milli volts per cm in eleven steps as 50,100,200,500 mv/cm and 1,2,5,10,20,50,100 mv/cm.	1	2000	
8	**Kymograph (students) Electrical independent unit** Electrically driven recording drums suitable for use by students for general experiments. Drive	25	4000	

	mechanism consists of Constant speed electric motor and accurate Gear-box contained in the base together with robust plate clutch. Engagement of various gear ratios are effected by sliding the lever into the slot marked with surface speed or by a knob in separate models. Main cylinder and Stainless Steel spindle have been standardized to make the same universal and interchangeable. Double electric contact arms are clamped on the main spindle and a stout double-contact block is fitted on top of the base. Gear ratios i.e. 640 mm, 320 mm, 25mm, 12.5mm, 2.5mm, 1.2mm, 0.25mm, and 0.12mm per sec, are effected by sliding lever into the slot marked with 8-surface speeds. Highly accurate speeds •Auto concentration curve (crc) mode and normal mode. •Sturdy body •Corrosion resistant •Low power consumption •Audio and visual alarm •Easy height adjustment •Writing lever •Starling Heart Lever •Isometric Lever • Vibrating read, variable interrupter Time marking – tuning fork (100 hz), spring time marker, electromagnetic time marker			
9	**Varnishing tray with foot lever** Size 14inchX20inch, should be able to use for varnishing purposes of smoked papers.	1	50	
10	**Smoking burners** With winding up gear, should be Gas/kerosene operable	1	50	
11	**Smoking stand** Should be useful for all types of cylinders having the turning handle	1	50	
12	**Tracheal Canula Metal** Made of Brass with adjustable Air-vent. Should be able to use for endo-tracheal intubation of big animals like Dog & Cats	4	50	

13	**Weighing-Machine for small animals like rats and guinea pig** Animal weighing scale; Livestock scale: slip proof-pan, waterproof-design, with railing and door. High legs for rough ground	2	50	
14	**Weighing-Machine for big animals like cats and dogs** Animal weighing scale; Livestock scale: slip proof-pan, waterproof-design, with railing and door. High legs for rough ground	1	50	
15	**Apparatus for isolated rabbit intestine** A Cylindrical copper bath with heating element controlled by thermostat. Complete unit with uprights, glass inner vessel and oxygen tube with platinum tip frontal lever from SS capillary tubing, fitted on teak base board	25	4000	
16	**Animal trolley with 12 cages** Fabricated from 1 square hollow pipe and angel of S.S. 304 quality material. The racks are mounted on four heavy duty 4, dia castors for easy handling and quiet transportation. Complete with argon arc joints and mirror finish. Available to hold 24 animal cages of size: 29X22X14 cms. (LXBXH). Rack size: 39X12X60 (LXBXH).	1	50	
17	**Dissection Instruments** Sets containing surgical standard scissors-2, curved scissors-2, pointed scissors-2, artery forceps-2, Mosquito artery forceps-2, scalpel handle-2, plain forceps-2, toothed forceps-2, small retractors-2 etc. Probes-2, hooks-2,. To be supplied with proper cover and box.	1	50	
18	**Oncometer kidney** Kidney oncometer, for measuring blood flow through the kidney	1	50	
19	**Oncometer Heart**	1	50	

20	**All glass distillation apparatus cap.2 litres** Automatic Electrically heated, all Borosil glass disdtillation apparatus with heavy metallic stand, plug and cord operable on 220 v AC. Auto cut device and double stage. Capacity 5 litres	1	100	
21	**Thermometer upto 110 degree Celsius**	50	50	
22	**Frog Boards**	25	50	
23	**Stop watches** Digital – Digital Stop Watch, Digital Stop Watch is perfect for any laboratory applications. The large LED display, high resolution enhances the functionality in several of situations. These are available in two ranges as per specification. Range 1:99:59:59 Hrs:Min:Sec. Resolution: 1 sec (for range 1) Min:Sec:Milisec. Range 2:99:59:99 Hrs: Min: Sec Resolution: 10milisec (for range 2) Display: 6 digit LED Display Alarm: Buzzer after set time.	6	50	
24	**Chemical balance – sensitive (0.1mg), digital capacity 100 gm** Balance beam scale, capacity: 120g/0.01g 220g/0.01g 320g/0.01g 1200g/0.01g 2200g/0.01g 3200g/0.01g. Power: AC/DC with lithium battery. Display: LCD/LED with back light. Pan size: diameter 130 mm.	1	500	
25	**Chemical balance-ordinary apothecary's** Best quality with divided doors show case, capacity 250 gms. Sensivity 1-2 mgm having all stone agates fitted in open graduated beam	1	100	
26	**Dispensing balance with metric system weights** 50gms with s.s. pans, Single Brass beam equal arm double Pan with extended support balance with metric system weights should be in Teakwood case on wooden/Formica base. Capacity: 250gms., sensitivity 1mg.	30	1000	

27	**Dessicator** Automatic drying process, maintenance free operation. •Sturdy metal case and durable epoxy coating. •Fit under your work bench. •Large front tempered glass panel. LED display of temperature and relative humidity.	1	50	
28	**Pill tiles**	30	100	
29	**Porcelin dishes**	30	100	
30	**Pestle and Morter**	30	100	
31	**Iron spatula**	30	100	
32	**Horn spatula**	30	100	
33	**Measuring glass cylinders of all sizes (10ml, 100ml)**	30 Each	100	
34	**Galli pot/ointment pot**	30	100	
35	**Glass rods**	100	100	
36	**Funnels (variable sizes)**	30	100	
37	**Museum drug specimen boxes** 6 feet width and 4 feet height.	4	100	
38	**Magnetic stirrer B.T.L.** The stirrer with a hot plate is made of metal sheet with stainless steel top which served as a hot plate. Its stirring and heating units are thermally insulated with asbestos sheet laminated with	1	100	

	asbestos cement. It is fitted with an electronic regulator to control the speed of the stirrer. An energy regulator adjusts the heating of the hot plate. The apparatus work on 220/230v ac. Laboratory magnetic stirrer is finished in oven baked paint.			
39	**Perfusion apparatus** The unit mounted on a heavy iron base measuring 27"X12". Two main uprights hold the equipment. Various parts of assembly are adjustable. Two unit Isolated Bath with central glass spiral through which the fluid passes is electrically heated and temp. is thermostatically controlled. Two light weight pulleys are used to direct a thread from heart to lever. Bath assembly complete with support, bottles, outlet chamber, oxygen tubes, cannulae, heart lever and rubber tube. A manometer is provided which is adjustable vertically as well as horizontally. The unit is complete in all respects with accessories required for various experiments.	1	500	
40	**Water bath 4 hole electrically heated** 3 inch diameter thermostatically controlled double walled, complete with contact thermometer and stirrer.	1	100	
41	**Plethysmograph assorted** • High Resolution Volume. • Resolution: 0.01 ml, Accuracy+/-0.01ml. • Easy to use pedal switch. LCD Graphic Display	1	100	
42	**Antihistamine chamber with manometer** Should be a complete Histamine aerosol apparatus having a acrylic box with nebulizer sphygmomanometer and chloroform bellows for assay of antihistamine drugs on guinea-pig etc.	1	100	
43	**Vortex mixer (test tube Mixer)** Designed with a heavy cast aluminum body to provide optimum bench-top stability. The mixer has two modes of operation: Continuous operation when you need to mix a quantity of tubes in sequence: intermittent operation is activated by touching the cup attachment with a test tube.	1	500	

	Equipped with a single tube mixing cup for single tube mixing and a soft foam pad and mixing platform for mixing 1-4 test tubes simultaneously. To be supplied with a fractional workable motor on 220V AC completed with indicator, plug & cord			
44	**Actophotometer (activity cage)** The frame is equipped with 32 infrared photocells, 16 placed in axis X and 16 placed in axis Y. The Photocell work at a wavelength of 950 nm and its information is multiplexed at a rate of 40Hz. Hole board plate is provided with 16 holes of diameter and detection depth. It should contain incorporated electric facility (variable) 0 to 100 volts for activating rats and indicating on meter.cm	1	500	
45	**Rotarod Assembly** Should have 5 chambers, 75 mm width each with a rotating rod of 25mm diameter having speeds of 5.10 to 15.20 and 25 r.p.m. •Digital rpm indicator and digital time counters. •Each counter runs from the beginning of the test until the animal falls from the drum to the lane. Electronic change of speed from 4-120 rpm.	1	500	
46	**Electro convulsiometer** Should be able to use for producing minimal and supra minimal seizures required for assaying of anti-epileptic and anticonvulsant drugs. Should provide minimum 50Hz stimulus current which can be adjusted 0.15mA to 330mA in steps, with one pain corneal electrode 4,6 or 8mm cups. And one pair of ear clips work on 220 AC. Should contain electronic timer device from 0.1 to 3 seconds in steps to control the stimulus current and LED indicator for duration of stimulus.	1	1000	
47	**Analgesiometer** •Thick pure aluminum plate (12mm) provides a very high temperature stability and even surface distribution. •Plate temperature can be held at a set point between above ambient to 70 degree C (+/-0.2 degree C). •A built-in timer activated by an external foot switch allows the precise measurement of the reaction time (0.1 sec resolution).	1	500	

	•Remote foot-switch controls the test start/stop allowing rapid Hands-free experiments. Provided with the calibration certificate of the temperature indicator.			
48	**Cooke's pole climbing apparatus** Should be having 2 (two) chambers, an outer chamber made of thick plywood sheet with an observation window and inner animal chamber made of clear acrylic sheet with a brass bar at the bottom. A built in shock of 200V AC, 50 Hz single phase with min of 0.2mA and is to be controlled by min of 11 position solid state timer up to 30 seconds. Should be having output terminal for kymograph recorder. Animal dropping tray to be provided to keep the equipment clean.	1	1000	
49	**Metabolic cage (diuretic study)** Classic metabolic cages with electronics to monitor the receptacles for food and water. Each may be removed without disturbing the animal. Optional infrared beam arrays (similar to those of the Activity Cages) can be mounted on either side of the cage to monitor coordinate activity and rearing behavious. Each cage is comprised of interchangeable parts which can be cleaned in a standard vivarium wash station.	6	1000	
50	**Digital pH meter** Digital Electronic (Table/Hand held model); . pH Meters are made up of using best quality parts and equipments, pH range: 0 to 14. Milli volt range: 0 to 1999 mv. Resolution: 0.01 pH , 1 mV. Repeatability: +/-1 digit. Temperature Compensation: 0 to 100 deg C. Operating Temperature Range: 10 deg C to 50deg C. Display: 3.5 digit LED display: Supplied Accessories: Electrode, Stand, Dust Cover and instruction Manual.	1	100	
51	**Tablet Disintegration machine glass tubing (length of 6ft)** Hooper diameter of minimum 2". Should be fitted with min 4 steel hammers fixed to a disc and Shaft being revolved at the speed of 3000 RPM. Rotation in vertical manner is made by EHP Motor which carries a specially designed Basket to hold 6 nos. of Tablets/Capsules under specified weight, moving vertically in temperature controlled glass vessels/Beakers placed on Hot	1	500	

	Plate. Having special type of starter facility operatable on 220 volts AC supply.			
52	**Glass mortar & pestle** Traditional 500 & 200cc	10 each	100	
53	**Electric Hot plate** Laboratory type should be of 20cm (8") dia with double plates. Should be complete with same heat rotary switch, plug & cord	1	50	
54	**Centrifuge Electric (RPM 3000)** Laboratory Equipment Centrifuge Machine High Speed – Heavy duty sturdy M.S. body, well painted finish, with maximum speed of 3000 R.P.M. at 10/12 tube of 15 ml total square body, with lid lock manual type, speed control by analogue know, digital display of timer, timer time 0-60 minutes speed display is digital, speed setting with help of knob, auto off if lid open, lid breaking system provided, power consumption 500 watt, power requirement 220V and 50 to 60 Hz, weight approx. 15 kgs, total noiseless operation, non-vibration, complete with head and power lead.	2	1000	
55	**Hot Air Oven** Hot Air Oven lab model for drying slides with three side heating elements with double walled construction. Inner chamber made of Aluminium or Stainless Steel sheet. Outer chamber is made of mild steel sheet, finished with white powder coated paint. Temperature controlled at 45 degree Celsius. The size should be 14"X14"X14".	1	50	
56	**Stethoscope** Traditional	6	50	
57	**Sphygmomanometer (B.P. Instrument)** Traditional with mercury manometer and armlet rubber bag or Riva Rocci cuff; Air pump; and	6	50	

	Aneroid manometer.			
58	**ECG Machine** ECG Machine Single Channel: 1. Digital One Channel ECG Machine 2. Simultaneous 12 leads acquisition 3. Multiple operation mode (Manual/Auto/Ref. lead) 4. LCD to display operation status and wave-form 5. The wave-form is displaying synchronously on the LCD with 195*65 dots 6. AC/DC power, built in rechargeable Ni-MH battery 7. High resolution thermal printing array system 8. High resolution response reach to 150 Hz 9. Capable of printing continuous one channel trace and annotations including lead mark and such parameters as sensitivity, paper speed, and filter operation status 10. High resolution digital inhibits baseline 11. One-touch operation able to enhance efficiency and relieve operation strain 12. Concept of floating input circuit meets IEC safety standard 13. Visual status due to light indicated touch-keys 14. Rechargeable battery supporting more than 50 patient examinations 15. Under the automatic mode, pressing key Mode continuously can keep recording when abnormal lead is found 16. Safety level corresponds to Class I, Type CF.	1	1000	
59	**Incubator** Incubator electric with thermostat. Size 14”X14”X14”.	1	1000	
60	**Magnifying glass with metal handle** Traditional	10	100	
61	**Bell jars assorted** Traditional	4	100	
62	**Laboratory Refrigerator** The Laboratory Refrigerators are specifically designed and are suitable for research laboratories,	1	1000	

	blood banks applications and across other laboratories working with critical elements. The Laboratory Refrigerator controls temperature varying from 2 Degree C to 8 Degree C. The unit shall be vertical model constructed of double walls high quality powder coated exterior mild cabinet. The Laboratory Refrigerator shall be insulated with high density CFC free Poly Urethane Foam the inner chamber is made of stainless steel 304 grades. With built in micro controller based temperature indicator-cum controller having audiovisual alarm. Door locking system for improved security with magnetic door gasket. Air cooled hermetically sealed compressor.			
	Department of Microbiology (For ESI-PGIMSR, JOKA)			
1	**Incubators electrical (large), 37ºC** Double walled chamber Two doors inner plexi doors Three side heating elements on three side of equipment. Digital temperature controller cum indicator with forced air circulation fan Inner size: 24”x24” X36” (approximate) No. of shelves: 03	4	1000	
2	**Hot air sterilizer, 160°C** Power supply: 440 V,AC, 3 Phase Material of Construction: SS 304 Motor : Supply: 0.5 HP: 1440 RPM: 1-0, 230 V AC: 50 Hz Exhaust: 2 HP 2800 RPM Blower (Impeller) : Supply: 210 x 117 Wmm Exhaust : ---- Dimensions: (W x D X H): 1060 x 1040 x 2150(Approximate) Bioclean work space: 877 x 660 x 610 Filters (W x D X H): Pre filter: size : 305 x 380 x 45 Fresh Air Filter: Type: EU-6 Intermediate: Size: 915 x 610 x 45	2	1000	

	Type: EU-13 Final Filter: Size: 915 x 610 x 75 (ANTIMICROBIAL) Type: EU-13 Intermediate: Size: 915 x 610 x 100 (ANTIMICROBIAL) Type: EU-13 Exhaust filter: Size: 915 x 457 x 100 Type: EU-13 Differential pressure gauge : Magnehelic pressure gauge Across HEPA filter wrt. ambient: 0-25 mm Across work space wrt. ambient: 0-10 mm Illumination: UV light: 1.5' L & 30W FLU light: 1.5' L & 20W Special features: Virus burnout system			
3	**Inspissators, 80°C** 1. The water jacket should be made with mirror polished high quality 304 prime S.S sheet framed with laminated wooden box, the jacket covered with glass lid, filled with blanket. 2. A provision for water inlet and outlet. Temperature should be controlled by imported thermostat. 3. Inner Dimension: 550 X 450 X 350 M 4. Watts: 1 KW-1.5 KW Capacity; 100 tubes	2	100	
4	**Digital weight Balance (chemical) with measurement up to 0.01 mg** 1. Capacity: minimum 220 gm 2. Accuracy: 0.01mg 3. Unibloc technology 4. Built in Motorized Calibration Clock display function	2	50	

5	**Monocular microscope with oil-immersion facility** 1.Stage movement (vertical) by co-axial coarse / fine roller guide (rack and pinion type). Coarse movement stroke: 20 mm tension adjustment on the right. Fine focusing knob (graduated). 2. Quadruple revolving nosepiece (fixed) 3. Plane stage 120 x 132 mm 4. with mechanical stage right hand. 5. Abbe condensor N.A 1.25 (Oil immersion), with aperture iris diaphragm. Vertical adjustment range: 10mm. 6. Blue filter 7. Built in 6 V 20 W illuminator base 8. 8cc immersion oil 9. Dust cover 10. Mirror unit (plano concave) 11. Monocular observation tube (inclination 45 $^{0.}$ 12. Power cord 13. Lamp 6 V 20 W halogen lamp (x2) 14. Objectives: Achromatic 4 x M (anti-fungus) Achromatic 10x M (anti-fungus) Achromatic 40x M (anti-fungus) spring Achromatic 100x M (anti-fungus) spring, oil 15. Eye piece: Two .: 10 x , 18mm (anti-fungus)	60	20,000	
6	**Ultracentrifuge** 1. Brushless induction motor with frequency drive and unique automatic rotor identification ensures accurate speed setting for individual rotors 2. Over current over heating safety cutoff circuit is provided for motor protection 3. Safety lid interlock on the centrifuge 4. User friendly microprocessor control with LED Display 5. Menu driven ten program memory 6. Choice of high brake, low brake and costing 7. Imbalance detector with cutoff 8. Safety lid interlock to prevent cover opening during centrifugation 9. Automatic unique safety rotor identification system	2	1000	

	10. Speed holding accuracy 100rpm 11. Self – diagnosis for errors 12. Approximate size: 400 x 500 x 440 13. Maximum speed: 20000, Max RCF: 37570, Max tube size: 100, Max capacity: 400 Supply: 220-240 V, 50 Hz			
7	**Refrigerated centrifuge** 1. Digital speed indicator 2. Step less speed regulator with zero start switch. 3. Digital automatic timer 0-99 mts. 4. Dynamic brake. 5. Unbalance cutout switch. 6. Brush wears indicator 7. Castors for full mobility 8. Lid-interlock. 9. Digital temperature indicator-cum controller. 10. Hermetically sealed refrigeration unit. 11. Key operated mains switch. 12. The centrifuge lid should have electrical interlock. 13. Maximum RCF- 4270 rpm/g, W x DxH= 820 x 930 x 1170 mm (approximately) **14.** Lowest temperature 0^0 C, 3.2 KVA.	1	1000	

8	**Distilled water plant** 1. Automatic sensors made available to keep the system in standby mode, when system is not in operation 2. Output Ltrs/Hr: 10 lt /hr double distilled 3. Quality of distillate: grade 1 4. Conductivity us/cm: < 0.2 us/cm, On line conductivity provided to monitor quality of output water. 5. Cooling water input for condemnation: 2ltrs/min X 2 inputs ,Water recycling available, no wastage of water 6. Power: 230v, 50/60Hz, 2 phase, 12KW approximately	2	1000	
9	**BOD incubators** • Constructed of double walls, the exterior is made of sheet steel. • Flush fitting insulating door had magnetic gasket, the inner chamber to be made of SS. • The plexi glass inner door. • The shelf position of trays should be adjustable. • A compartment is formed at the back of interior into which is fitted the refrigeration evaporation, heater and powerful centrifugal force air circulator for creating positive air flow through the incubator. • Hermetically sealed compressor below the incubator to provide temperature below ambient. • Built in safety thermostat to prevent damage to samples in case of temperature controller malfunctioning. • All controls should be mounted on the top of the incubator comprising self illuminated mains ON/OFF switch, heat energy regulator, solid state fully automatic digitalelectronic temperature controller- cum-indicator indicating lamps and productive fuses. • Supply 230 V, single phase, 50Hz AC. • Temperature range and accuracy Ambient plus 5^0C to 60c+/-0.5^0C Volume (lts) | Approx. working space(cm) W x D x H | Approx. external dimension (cm) W x D x H | No. of shelves 340 | 62 x 52 x 102 | 74x78x156 | 3	2	1000	

10	**Class II Biosafety Laminar** Power supply: 440 V,AC, 3 Phase Material of Construction: SS 304 Motor : Supply: 0.5 HP: 1440 RPM: 1-0, 230 V AC: 50 Hz Exhaust: 2 HP 2800 RPM Blower (Impeller) : Supply: 210 x 117 Wmm Exhaust : ---- Dimensions: (W x D X H): 1060 x 1040 x 2150(Approximate) Bioclean work space: 877 x 660 x 610 Filters (W x D X H): Pre filter: size : 305 x 380 x 45 Fresh Air Filter: Type: EU-6 Intermediate: Size: 915 x 610 x 45 Type: EU-13 Final Filter: Size: 915 x 610 x 75 (ANTIMICROBIAL) Type: EU-13 Intermediate: Size: 915 x 610 x 100 (ANTIMICROBIAL) Type: EU-13 Exhaust filter: Size: 915 x 457 x 100 Type: EU-13 Differential pressure gauge : Magnehelic pressure gauge Across HEPA filter wrt. ambient: 0-25 mm Across work space wrt. ambient: 0-10 mm Illumination: UV light: 1.5' L & 30W FLU light: 1.5' L & 20W Special features: Virus burnout system	4	2000	
11	**Venereal Diseases Research Laboratory (VDRL) shaker** Bench top, 12” x 12” platform size Built in timer 0-15 minutes Maximum speed of 180 rpm	2	100	

	Built in speed regulator			
12	**Water bath (serological)** **Serological Water Bath** to be double walled filled with high grade glass wool insulation between the two chambers. Outer chamber of serological water bath to be made of mild steel with powder coating and inner chamber is made of stainless steel. Temperature to be controlled by thermostatic Temp. Range to be 5°C above ambient to 60°C.	2	100	
13	**Deep freeze (-20º C)** 1) Double wall, outer made of M.S. Sheet with powder coated and inner made of SS sheet having PUF insulation to minimize heat loss. 2) Capillary controlled balanced hermetically sealed refrigeration 3) Vertical model – 20 ^{0}C 4) Volume: 425 ltrs **5)** Dimension: W x D x H: 1300 x 500 x 780 mm (Approximate)	2	100	
14	**Electrical pH meter** Digital Electronic (Table/ hand held model); comprehensive range of PH meters which includes digital PH meter, Hand held PH meter, PH testing meter etc. PH meters are made up using best quality parts and equipments. PH Range: 0-14PH. Mill Volt range: 0 to 1999mv. Resolution: 0.01ph, 1mv. Repeatability: +/- 0.01PH +/- 1mV. Accuracy: 0.01 PH+/- 1 digit, 1mV +/- 1 digit. Temperature compensation: 0 to 100deg C. operating temperature: 10 Deg C to 50 Deg C. display: 3.5 digit LED display. Supplied accessories: Electrode, Stand, dust cover and instruction manual.	2	100	

15	**MacIntosh fields anaerobic jar** Anaerobic system Supplied with transparent unbreakable poly carbonate jar of approximately 3.5 lt capacity Sturdy aluminum lid clamp and sealing ring with built in safety features Pressure valve with safety valve and two way pressure guage Anaerobic indicator tablet Anaerobic gas pack 3.5 lt Petri plate carrier	2	50	
16	**Deep Freeze -70^0 C** Constructed on double wall, outer made of M.S. Sheet with powder coated and inner made of S.S sheet having PUF insulation to minimize heat loss. 2. Capillary controlled balanced hermetically sealed refrigeration 3. Vertical model: -70C 4. Volume: 425 ltrs 5. Dimension: W x D x H: 1300 x 500 x 780mm (Approximate)	2	100	

17	**Research microscope** **<u>Trinocular Research Microscope for Transmitted Light Bright field studies and Reflected light Fluorescence attachment</u>** Stand — Rugged and sturdy stand with the following features **Power supply external for Transmitted light and Reflected Light Long life LED Illumination system** Co-axial coarse and fine harmonic drive focusing knobs, low positioned for convenient operation. Built-in filter 6 position filterwheel and grey filter set containing 3 grey filters 0.015, 0.06 and 0.25. **4 position reflector turret for fluorescence filter sets and upgradable for LED fluorescence.** Built-in variable field diaphragm for transmitted light illumination. **Sutaible for Transmitted light studies viz., bright field, dark field, TL Phase contrast and Reflected light Fluorescence and should be upgradable for Simple Polarization studies** With Anti-fungus treatment Optics — Infinity Colour Corrected System optics Binocular Photo tube — Binocular photo tube with an Upright image and 20° inclination and suitable for 23mm Field of view and above eyepieces and 100:0/0:100 ratio for observation and documentation. Interpupillary distance adjustment from 55-75mm. It should have '**Siodentopf'** design by which we can have two different viewing heights. Eyepieces — 10x with field of view of not less than 23. Both the eyepieces should have diopter adjustment of =/-5. It should capable of accepting reticules. Eyepieces with eyecups Nosepeice — 6x revolving nosepiece (capable of accommodating upto 6 objectives) mounted on ball bearing with highly precise click stops and should have slots for upgradation for DIC. Mechanical Stage — Dual layered with hard coat anodiozed surface with a stage plate of 220x170mm and mechanical stage of 75x50 with right and drive Speciment holder for one hand operation, spring lever left Illumination — Powerful Long Life LED illumination with minimum 10,000 hours of life time should be quoted	1	10000	

		The illumination control knob and ON/OFF switch should be low positioned for convenient operation.			
	Condenser	Condenser 0.9/1.25H			
	Objectives	Planachromatic A-Plan Objectives of 2.5x,5x/0.12,10x/0.25, 40x/0.65,100x/1.25 oil.			
	Fluorescence attachment	**Fluorescence light attachment with Powerful LED illumination for fluorescence excitation should be offered** **Suitable LED illumination should automatically come in the light path, the moment a specification Fluorescence filter set is swung in** The fluorescence illumination light path should be of **Light trap** technology to get a good contrast om the in the final image.			
		It should have 4x filter turret with Blue, Green and Red excitation filters The filters sets should be easily insertable and removable by Push and Click method			
	Filter sets	Two filters with following excitation and emission range a)EX BP 450-490,BS FT 510,EX LP 515 b)EX BP 546/12,BS FT 580M EX LP 590 c) EX BP 560/40,BS FT 585, EM BP 630/75			
	Simple Polarization attachment	Simple polarizer and Anlyser should be a part it for the Urine analysis			
	Camera Attachment	Dedicated microscopic camera along with the software and a computer should be quoted with the following specifications			
	Camera attachment(Optional)	0.5xcamera adapter			
	Camera	Camera with 5.0 Mega Pixel Camera			
	Sensor Regolution	2560x1920 pixels			
	Pixel size	2.2µm x 2.2µm			
	Software	Suitable software to be provided along with the camera			

	Computer Suitable computer to be quoted to store the image and also should be in a position to conduct simple image analysis 1. Trinocular head microscope with digital photo micrography and CCTV 2. Infinity corrected optic system 3. Phase contrast microscopy, dark field, fluorescent and polaeizing microscopy 4. Imaging system, analysis software 5. Option for penta observation tubes 6. UPS backup shou;d be given for 2 hours 7. LED light with battery backup 8. Ergonomic design, high quality objectives and anti fungal lens 9. Micrometer eyepiece, micrometer slide, pointer eyepiece 10. Option for upgradation 11. Warranty- 2 years 12. Service backup to be available in Bangalore.			
18	**Binocular microscope** 1. Stage movement (vertical) by co-axial coarse / fine roller guide (rack and pinion type). Coarse movement stroke: 20 mm tension adjustment on the right. Fine focusing knob (graduated). 2. Quadruple revolving nosepiece (fixed) 3. Plane stage 120 x 132 mm 4. With mechanical stage right hand. 5. Abbe condenser N.A 1.25 (Oil immersion), with aperture iris diaphragm. Vertical adjustment range : 10mm. 6. Blue filter 7. Built in 6 V 20 W illuminator base 8. 8cc immersion oil 9. Dust cover 10. Mirror unit (plano concave) 11. Binocular observation tube (inclination 45 0, inter pupillary distance adjustment range 53- 75mm), diopter adjustment on the left. 12. Power cord 13. Lamp 6 V 20 W halogen lamp (x2)	4	10000	

	14. Objectives: Achromatic 4 x M (anti-fungus) Achromatic 10x M (anti-fungus) Achromatic 40x M (anti-fungus) spring Achromatic 100x M (anti-fungus) spring, oil Eye piece: Two no.: 10 x , 18mm (anti-fungus)			
19	**Dissecting microscope** Eye piece 10 x Adjustable mirror	2	2000	
20	**Horizontal autoclave** 1. Triple walled , the jacket and chamber made of SS 316 grade of thick sheet, 2. The outer cover made of 18 swg SS 316 grade of thick plate. 3. Boiler made of SS 316 grade thick material. 4. The door made of 12mm thick SS316 and SS 316 grade thick plate. 5. The door having silicon rubber gasket. 6. The jacket with glass wool to minimize the heat losses and covered with a Mat/polished SS sheet. 7. The chamber to be provided with compound pressure gauge, plug screen, safety valve, release valve, powerful ejector (Baffle plate), vacuum breaker, pressure control switch, automatic low water level cut off device and indicating lamp of operation. 8. The control panel consists of indicating lamp, temperature indicator, water level controller, digital timer 999 min, MCV and contactor. 9. The working temperature at 121 C and working pressure 20 psi. 10. Hinged self locking S.S door cannot be opened when under pressure. 11. Achromatic 40x M (anti-fungus) spring 12. Achromatic 100x M (anti-fungus) spring, oil Eye piece: Two no.: 10 x , 18mm (anti-fungus)	3	3000	
21	**Vortex mixer** ➢ 1200rpm ➢ 220/230 V AC	2	1000	

	Size: 12”X 12”			
22	**Microfuge** 1. Speed: 6000RPM 2. Rotor: 6 places for 1.5 ml centrifuge tubes	2	1000	
	Department of Community Medicine (For ESI-PGIMSR, JOKA)			
1	Stethoscope(Clinical)	02 pcs	50	
2	B.P.Apparatus	02 pcs	50	
3	Horrock’s Apparatus (Complete set with chemicals & Manual)	01 pc	50	
4	Haemoglobinometer(Sahli’s)	01 pc	50	
	Department of Radiology(For ESI-PGIMSR, JOKA)			
1	**ULTRASOUND MACHINE WITH COLOUR DOPPLER SYSTEM** 1. Multi functional USG scanner with Doppler colour flim mapping and all circuits related to image quality should be fully digitalized. 2. Multiprobe – linear, convex, and unit be supplied with three active transducer port. 3. B-mode, Directional Doppler mode, colour mode, power Doppler mode and combination mode like B+ B, B+M etc. Real time spectral analysis for spectral Doppler. 4. Quick response change over mode imaging condition, settings, switching of probes and application should be fast. So operator can concentrate	01 pc	30,000	

attention on patient.

5. High spatial resolution / wide dynamic range and high contrast resolution.
6. Key board should have back light with function keys and alpha numeric key board.
7. Wide view function, wide range panoramic image.
8. Real time Doppler measurement function to shorter time for examination.
9. Image record function.
10. Image replay function.
11. Should be supplied with two linear and one convex probes.
    a) Two linear probes – (I) Frequency 05-12 MHZ

       58 mm contact area, THI frequency 6 - 9.8

       (II)Frequency 7.2-14 MHZ

       38 mm contact area, THI frequency 7 - 14

12. Zoom function with high definition pictures.
13. Provision for printer and UPS with the machine.
14. Provision for upgradability of the system.

	15. Multiple USB Port. 16. Flat monitor (not less than 15") Preferably LED 17. Facility for direct image transfer from monitor to printer (ie image printing software must be in built). 18. Post processing facilities both for black and white and Doppler image. 19. Tissue harmonic imaging facility. 20. Wide degree of range of movement of Monitor			
	Department of Pathology (for ESI PGIMSR Manicktala)			
1	**Incubators electrical (large), 37ºC** 1. Double walled chamber 2. Two doors inner plexi doors 3. Three side heating elements on three side of equipment. 4. Digital temperature controller cum indicator with forced air circulation fan 5. Inner size: 24"x24" X36" (approximate) No. of shelves: 03	1	1000	
2	**Digital weight Balance (chemical) with measurement up to 0.01 mg** 1. Capacity: minimum 220 gm 2. Accuracy: 0.01mg 3. Unibloc technology 4. Built in Motorized Calibration Clock display function	1	500	

3	**Table Top Refrigerated Centrifuge** I. Max rpm : Atleast 14,000 must be in increments of 10 rpm II. Max capacity must be 4x750ml III. Must be capable to use as floor standing with a rolling cabinet with drawers. IV. Same swing out rotor must be able to hold ≥ 16 MTP plates,8 Cell Culture Plates, 4 DWP, 48 x 15ml falcon, 20 x 50ml falcon, V. Plate rotors must accommodate 96 well PCR Plate, 12 nos. regular glass slides, isoracks. VI. Access height must be < 30 cm VII. Temperature Range should cover -9^{0}C to +40^{0}C VIII. Must maintain sample temperature $\leq$ 4^{0}C at maximum speed. IX. Centrifuge timer must start after the set rpm reached X. Short spin key must run with selectable rotational speed XI. Must be able to program radius correction XII. System must be shut off automatically after non usage of 8 hrs XIII. Must have built in condensation drain to pass out accumulated water XIV. Rotors, lid, adapters must be autoclavable at 121ºC XV. Must be capable to change the value during centrifugation XVI. Noise Level must be < 56 dB with swing out rotor XVII. Must have full digit display for Speed, RCF, Time, Temperature XVIII. System must be able to run slides/ isorack XIX. Must have fixed angle rotor for 6 x 85ml tubes. XX. Rotor and lid must be made of anodized aluminum (not carbon or polypropylene). XXI. Rotor must be light in (≤3.25kg including lid) and highly chemical resistant. 34° borehole angle to reduce pellet smears along tube wall. XXII. Adapters required for the following tube size and rcf specification: XXIII. 15 ml falcon, at 17,200 rcf XXIV. 50ml falcon at 17,400 rcf XXV. Rotor,lid and adapters must be autoclavable at 121ºC, 20 min. XXVI. Must be able to accommodate tubes for 5ml conical, blood collection tube of 13mm dia. XVII. Fixed angle rotors for 30 places for 1.5/2.0 mL tubes, Max. speed: 20,800 × *g* (14,000 rpm), with metal lid ((not carbon or polypropylene) and autoclavable faclity **XVIII.** Required stabilizer should be quoted along with the system	1	10,000	

4	**BOD incubators** 1. Constructed of double walls, the exterior is made of sheet steel. 2. Flush fitting insulating door had magnetic gasket, the inner chamber to be made of SS. 3. The plexi glass inner door. 4. The shelf position of trays should be adjustable. 5. A compartment is formed at the back of interior into which is fitted the refrigeration evaporation, heater and powerful centrifugal force air circulator for creating positive air flow through the incubator. 6. Hermetically sealed compressor below the incubator to provide temperature below ambient. 7. Built in safety thermostat to prevent damage to samples in case of temperature controller malfunctioning. 8. All controls should be mounted on the top of the incubator comprising self illuminated mains ON/OFF switch, heat energy regulator, solid state fully automatic digitalelectronic temperature controller- cum-indicator indicating lamps and productive fuses. 9. Supply 230 V, single phase, 50Hz AC. 10. Temperature range and accuracy Ambient plus 5^0C to 60c+/-0.5^0C Volume (lts) | Approx. working space(cm) W x D x H | Approx. external dimension (cm) W x D x H | No. of shelves 340 | 62 x 52 x 102 | 74x78x156 | 3	1	1000	
5	**Class II Biosafety Laminar** Power supply: 440 V,AC, 3 Phase Material of Construction: SS 304 Motor : Supply: 0.5 HP: 1440 RPM: 1-0, 230 V AC: 50 Hz Exhaust: 2 HP 2800 RPM Blower (Impeller) : Supply: 210 x 117 Wmm Exhaust : ---- Dimensions: (W x D X H): 1060 x 1040 x 2150(Approximate) Bioclean work space: 877 x 660 x 610 Filters (W x D X H): Pre filter: size : 305 x 380 x 45	1	2000	

	Fresh Air Filter: Type: EU-6 Intermediate: Size: 915 x 610 x 45 Type: EU-13 Final Filter: Size: 915 x 610 x 75 (ANTIMICROBIAL) Type: EU-13 Intermediate: Size: 915 x 610 x 100 (ANTIMICROBIAL) Type: EU-13 Exhaust filter: Size: 915 x 457 x 100 Type: EU-13 Differential pressure gauge : Magnehelic pressure gauge Across HEPA filter wrt. ambient: 0-25 mm Across work space wrt. ambient: 0-10 mm Illumination: UV light: 1.5' L & 30W FLU light: 1.5' L & 20W Special features: Virus burnout system			
6	**Deep freeze (-20^{0}C)** A. Double wall, outer made of M.S. Sheet with powder coated and inner made of SS sheet having PUF insulation to minimize heat loss. B. Capillary controlled balanced hermetically sealed refrigeration C. Vertical model – 20 ^{0} C D. Volume: 425 ltrs **E.** Dimension: W x D x H: 1300 x 500 x 780 mm (Approximate)	1	1000	
7	**Vortex mixer** 1) 1200rpm 2) 220/230 V AC Size: 12”X 12”	2	1000	
8	**Microfuge** a) Speed: 6000RPM Rotor: 6 places for 1.5 ml centrifuge tubes	1	500	

9	**DEEP FREEZERS -80^{o}C** a) Temperature range -50^{0}C to -86^{0}C and adjustable with a setting accuracy of +1^{0}C b) Internal capacity minimum 400 litres c) Vertical Cabinet (upright) d) Powder coated solid outer cabinet to prevent corrosion e) Inner cabinet should be made of stainless steel f) Separate inner doors to prevent cold loss g) It should have 5 or 6 inner shelves of stainless steel (adjustable) with inventory racks h) Automatic closing of the front door below a opening angle of 90^{0} i) Hold over time 2 hrs at ambient temperature j) Microprocessor control for operation with integrated audio visual temperature alarm function with digital monitoring display k) Minimum 4 hours battery back for display back up l) Seven days inkless graphic temperature recorder with range of -50^{0}C to -100^{0}C, with data logger m) Heavy duty hermitically sealed compressor air cooled cascade refrigeration system, maintains inner temperature below -80^{0}C n) Refrigerant should be CFC free o) Optional : Access port for C02 back up system for refrigeration p) Reliable mounting and fixtures to ensure minimize noise and vibration q) Heating device on frame to avoid condensation r) Alarm history: Temperature maximum and minimum, average temperature during alarm period, time of duration of alarm s) Have the possibility to check the internal temperature on display, during power failure t) Door opening audio and visual display alarm u) Casing & door should have vacuum insulation panel with polyurethane foam as per standards v) Should have lockable castors for free and easy mobility w) Automatic defrosting preferred x) Should have compressor running time < 60 to 70% y) Should have facility for connection to external monitoring system z) To be operational on 220 to 240 Volts at 50 Hz. Single phase aa) Should meet the National/International standards laid down in the medical refrigeration such as ISO/CE/BIS/FDA etc. A Line Voltage Corrector as per the specification provided below should form part of standard configuration.	1	10,000	

10	**Molecular Platform for detection, Identification & MDR/XDR Testing for Tuberculosis by Line Probe Assay** 1. Should be a compact bench top model capable of handling atleast 10 samples per run. 2) Should be able to maintain temperature stringently with concomitant vortexing if required. 3) Should be able to perform molecular level assays like: 1. Screening for Tuberculosis from direct samples & culture involving detection of both MTB and MOTT in one single test. 2. TB drug sensitivity for MDR/XDR determination from direct samples after decontamination or culture positive material. 4) Assays on the platform should be on DNA strip technology 5) All controls including amplification control as a check for sample inhibition should be incorporated in the testing methodology preferable for each and every sample without involving additional costs. 6) The assays should have an easy and simple DNA/RNA extraction procedure through sonication, Chemical kit only. 7)The assays should have a validated protocol for pulmonary sample types as well for direct screening of tuberculosis from samples. 8)Tenderer should be able to provide after sales service/onsite training and logistics support. 9) The results of the tests must be having a high NPV & PPV with reporting time not more than 4-5 hours for any test whether screening or drug sensitivity. 10) Online UPS 2KVA with 30 minutes backup	1	20,000	
11	**Nanodrop Spectrophotometer** 1. A compact spectrophotometer for quantifying DNA, RNA and proteins. 2. Should be able to read very small volumes 0.5 to 1.0 ul of samples based on surface tension technology 3. Absorbance precision should be 0.002 or less for 1mm path 4. Spectral resolution should be 1.8 or less 5. Should have flexibility of using both microvolume pedestal as well as standard cuvettes 6. Should not use additional materials like capillaries or special tips etc. for loading of microvolume samples 7. Its fiber optics should be able to scan from less than 200 nm to beyond 750 nm wavelengths 8. It should be able to measure DNA in a range of 2 to beyond 1000 ng/ul	1	2000	

	9. The instrument should have a Xenon flash lamp light source 10. It should not take more than 15 secs for each measurement **11.** It should be accompanied with its software and a laptop with latest configuration of MS-Windows, full MS-Office and Anti-Virus software plus laser printer.			
12	**Horizontal Electrophoresis with Power Supply** 1. A horizontal electrophoresis system should include buffer tank, safety lid with cable and leveling bubble. 2. Should be able to run the gel size of 15x7; 15x10 cm 3. The system should include UV transparent gel trays of 15x7 and 15x10 cm; with integrated fluorescent ruler. 4. The system should include tape free gel casting module for leak free operations. 5. The system should also have an option of using casting gates to allow hassle free casting of gels directly in the electrophoresis cells. 6. The system should include two 1.5mm 15- & 20-well fixed height combs, compatible casting gates, compatible comb holder, and compatible gel caster. 7. Gel tank should come either within built electrodes or should be provided with Anode and Cathode snap fit electrode assembly 8. The system should have the option for adjustable height combs with comb holders. 9. Should have a provision of replacing the electrodes as & when required. 10. Should accommodate precast gel and should come with accessories for precast gels 11. Power supply for horizontal gel: I. Power supply should be able to supply at least Four gels tanks parallelly II. Should be able to provide 300V/400mA output with constant volt/current operating mode with automatic crossover. III. Should have a built-in timer of range covering 0-999min or more. IV. Must comply with regulatory certification – IEC/EN 61010-1 or European CE **V.** Should have auto power recovery after power failure & no-load detection	1	2000	
13	**Real Time PCR System** 1. Real time PCR with block of 96 x 0.2 ml tubes or plate to Run typical 0.2ml tubes, strips, and plates. 2. System should have LED excitation source with Photodiode detector 3. The base thermal cycler should be able to be used for standard (end point) PCR 4. Gradient capacity in Real-time must be present for primer optimization. 5. System should have detection of at least FIVE different fluorescent reporters in the same tube.	1	20,000	

	6. Should have complete touch screen LCD display with colored printer. 7. Should be upgradable to 384 well platform 8. System should have six excitation and Six emission channels Each filter should correspond to one dye that ensures smooth differentiation of even dyes having high degree of spectral overlap. 9. Should be capable of Detecting Cy5, FAM/Sybr Green, VIC/JOE, TAMRA/Cy3, Texas Red, Quasar705 10. Maximum Ramping speed : atleast 5 ^{O}C per sec 11. Peltier Cooling & Heating for uniform temp control 12. Should have one channel dedicated for FRET experiments 13. Excitation –Emission range should cover 450- 730nm 14. No internal reference dye should be required. True 5 Color Multiplexing with use of 5 different flourophores without the need of addition of any internal reference dye, 15. System should have dynamic range of 9 orders. 16. Open system capable of running various chemistries so that Different chemistries using TaqMan, Molecular Beacon, SYBR green etc can be performed. 17. Temperature range should cover 0– 100 ^{O}C with accuracy of atleast ±0.2 ^{O}C and uniformity of atleast ±0.4 ^{O}C within 10 sec of arrival at 90 ^{O}C 18. System should have minimum sample volume atleast 10µl 19. System should detect ≤ 10 fmol of fluorescein 20. Should have multiple scan modes with a FAST scan option for reading all wells in 3 seconds 21. System should have Automatic allelic discrimination by end point fluorescence or threshold cycle. 22. System should have System should haveGene expression analysis by relative quantity (ΔCt) or normalized expression (ΔΔCt). 23. System should have End point analysis for upto 5 fluorophores 24. Should have mode for Melt curve analysis 25. Comparison of upto 5000 Ct values from different data files should be possible 26. Software should have express load feature which allows entry of data after experiment. 27. User manual in English 28. Service manual in English 29. Important spare parts and accessories should be provided 30. Should be USFDA or CE approved product 31. Comprehensive training for lab staff and support services till familiarity with the system should be provided 32. Suitable online UPS with maintenance free batteries for minimum half an hour back-up should be supplied with the system. 33. Suitable Servo controlled Stabilizer.			

14	**Gel Documentation and Image Analysis System** i. Imaging system should have Automatic capabilities with Application driven, user selected or recalled by a protocol. ii. Should have 100 % repeatability via recallable protocols. iii. System should have pre-calibrated focus for any zoom settings & sample height. iv. Should have appropriate flat fielding correction automatically & consistently applied to image data for every application.. v. Versatile system to support wide range of applications like- Fluorescent dye like syber green, syber safe, Western blotting, 2-D, 1-D, Dot Blotting, Nucleic acid detection , Qunatitation etc. vi. Should have atleast true 12 bit true CCD camera with resolution of 1392 X 1040 µm. vii. Image resolution: Image resolution :atleast 4 megapixels viii. System should take sample of size 28 X 36 cm atleast. ix. System should have precalibrated & optimized dynamic image flat fielding x. System should beuniversal dark hood & upgradeable to chemilumnescence. xi. System should have motorized zoom lens- f/1.2, 12-75mm or better with numerical feedback value to reduce the experimental variation -Capable of Optimizing, saving, and quickly recalling the imaging acquisition settings xii. System should have safe DNA Imaging without UV exposure- using the XcitaBlue Conversion screen to prevent damage from UV and preserve samples for downstream protein production. xiii. System should have reproducibly position or center the sample on the image plate by using gel alignment templates. xiv. System should come with 1 D analysis software with following features: a) Single mouse click from image capture to results and reports, very fast and efficient. b) Should have comprehensive automated quantitative analysis of proteins & DNA samples in seconds. c) Intuitive and well organized (efficient) selection of workflows based on applications d) Should calculate precisely continuous focus curves that are consistently and automatically applied for every zoom position and sample height. No user intervention for focusing. All calculations are done at setup, once and for all image captures. e) Software should have Direct link to Excel and Word to display data in a variety of different ways xv) Quoted model should have atleast 50 successful installations in India and the user list should be provided. xvi) System should be quoted along with compatible Desktop with image analysis softwares and microsoft office, Printer and online UPS half an hour back up..	1	10,000	
15	**Ultrasensitive Weighing Balance** (a) Readable to 0.0001gram	1	2000	

	(b) Auto-stability indicator (c) Real time temperature compensation (d) optional,motor driven, built-in calibration weight (e) a windscreen that measures 7.5Wx8.25Dx9.5H (inches) (f) a circular, 3.5inch weighing pan and standard RS232 interface Capacity- 210g			
16	**Fume hood** Alternate Air Usage/Static Pressure at 100 fpm: I. With sash full open, exhausts 720 CFM at 0.25” II. H2O maximum external static pressure With Integral blower Conformance: ANSI Z9.5, ASHRAE 110, ASTM / E84 / CAN/CSA / C22.2 / NFPA 45 / SEFA 1 / UL Lighting: incandescent Style: Bench top Electrical: 220-240 volts	1	15000	
17	**Homogenizer with two probes** Small dispersing instrument for volumes from 0.1-100 ml Quick-connect coupling for probes Stainless steel probes Option of using with plastic disposable dispersing elements • High performance drive Probe for volume Range (H20): 0.1 to 10 mL, 1-100 ml Speed Range: 8000 to 30,000rpm Maximum Viscosity (cps): 20000 Preferably built-speed control Use Options: Handheld or stand-mounted Motor: 125w Noise Level: 65dB or less Overload Protection: Yes Should be supplied with all the accessories like Stand, boss clamp, clamp etc	1	10,000	

18	**Digital Dry Baths** Microprocessor control Digital display Dual block models Temperature range : Ambient to 150^0C, in 0.1^0 increments Temperature resolution : 0.1^0C Temperature uniformity : $\pm0.2^0$C Temperature accuracy : $\pm0.3^0$C Block chamber construction : Stainless steel Block for 20x2ml tubes Block for 12x15ml centrifuge tubes	1	4000	
19	**Microprocessor controlled Centrifuge** 1. Centrifuge should be Microprocessor controlled with LED display. 2. There should be imbalance detector with cutoff. 3. Safety I.D interlock should be there. 4. Maximum speed available should be atleast 7000 rpm. 5. Swing Out Rotor Head: 6. Should be complete with metal carrier. 7. Capacity should be 4 X 250 ml. 8. Reduction Adaptor for Swing out Head of capacity 4 X 250 ml: 9. It should be suitable for glass tubes of capacity 5ml. **10.** Number of tubes per adaptor should be at least 13.	1	5000	
20	**Set of Single Channel micropipette(0.1/0.2-2/2.5, 2-20, 20-200 & 100-1000 µlvolume)** 1. A set of single channel variable volume pipette should consist micropipettes of following range i) 0.1/0.2-2/2.5,2-20,20-200,100-1000 µl, each volume 2 in no. 2. Systematic error for each pipette should not be more than 3-5% at minimum volume and 1% at maximum volume 3. Minimum resolution of volume 0.001µl (0.1-2.5 µl), 0.01µl (2-20 µl) and 0.1 µl (20-200 µl) 4. Enhanced UV resistance 5. Easy digital volume setting 6. Easy and convenient single hand locking lever 7. Tightness and precise reproducibility for long hours.	2	1000	

	8. Tip ejection without touching the tip 9. User/Technical/Maintenance manuals to be supplied in English. 10. Certificate of calibration and inspection from the factory should be provided 11. Spare parts and accessories should be provided with the pipettes **12.** Should provide compatible Pipette stands			
21	**Single Channel micropipette (1 ml-5ml volume)** i) Single channel variable volume (1 ml-5ml) ii) Systematic error for each pipette should not be more than 3-5% at minimum volume and 1% at maximum volume iii) Enhanced UV resistance iv) Easy digital volume setting v) Easy and convenient single hand locking lever vi) Tightness and precise reproducibility for long hours. vii) Tip ejection without touching the tip. viii) User/Technical/Maintenance manuals to be supplied in English. ix) Certificate of calibration and inspection from the factory should be provided x) Spare parts and accessories should be provided with the pipettes Should provide compatible Pipette stands	2	500	
22	**Multichannel Pipette Set** • Set of two 8-channel micropipette (2-20 µl and 20-200 µl) or (5-50 µl and 30-300 µl), each volume 2 in no. • Minimum resolution of volume 0.01µl (2-20 µl or 5-50 µl)) and 0.1 µl (20-200 µl or 30-300µl) • Should also require very low operating force for tip • Should be supplied with 10000 compatible tips for each pipette. User/Technical/Maintenance manuals to be supplied in English. • Certificate of calibration and inspection from the factory should be provided • Spare parts and accessories should be provided with the pipettes Should provide compatible Pipette stands	2	500	
23	**Magnetic Stirrer with Hot Plate** • Powerful motor for stirring quantities of up to 5 Liters • Speed range [rpm] 100 - 1500 • Stirring bar length max. [mm] 30	1	500	

	• Heating temperature range [°C] ambient to 120 • Heat control stepless • Heat control accuracy [±K] 1 • Speed control scale 0 - 6 • Fixed safety circuit • Heated area (at least), mm 120 X 120 Power : 220-240V AC			